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CONSERVATION FARMING

In Selected Areas Of The Southern Piedmont

Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE
Washington, D. C. August 1960

Prepared in

Farm Economics Research Division

Agricultural Research Service

United States Department of Agriculture

PREFACE

From 1953 to 1958, significant advances were made in conservation farming in the Southern Piedmont. An increasing number of farmers have either replaced, or are in process of replacing, all or most of their cotton with various crop and livestock specialties. Not only has much land formerly in row crops been shifted permanently to orchards, commercial truck and close-growing crops, and improved pastures, but a relatively large acreage of idle or semi-idle land has been restored to farming.

In some instances, these and other changes were brought about without adding to land already owned and operated. But most of the needed adjustments have been or can be made through enlarging farms, as well as diversifying farm operations, reducing reliance on rented land, and developing the full potentials of all land including land formerly producing little if anything in the way of crops, pasture, and timber.

This analysis of adjustments in land use in relation to conservation needs is based on a survey of a small fraction of the land area of the Southern Piedmont. Nevertheless, it is hoped that the information will be useful in the Rural Development Program and other efforts to improve economic conditions in rural areas, as well as in conserving and more fully developing the land resources of the Piedmont area.

Plans for the survey were developed by M. M. Tharp and H. H. Wooten, Farm Economics Research Division, ARS. C. P. Butler, Farm Economics Research Division, Clemson, S. C., arranged for the mapping of land use and soils data in the survey areas. C. C. Haren, Farm Economics Research Division, carried out fieldwork, analyzed the data, and prepared this report.

Special acknowledgment is extended to W. E. Jones, Work Unit Conservationist, Spartanburg, S. C.; G. W. Dickinson, Area Conservationist, Decatur, Ga.; and others of the Soil Conservation Service for their assistance in mapping soils and in providing data on conservation needs and practices.

Similar acknowledgment is made of the assistance of J. O. Patterson, Office Manager, Spartanburg, S. C., and H. K. Malcom, Office Manager, Monroe Ga., Agricultural Stabilization and Conservation Service, for their cooperation in expediting the survey.

Recognition is extended also to operators of farms in the survey areas and other residents of the Southern Piedmont for their many helpful comments and suggestions concerning farm and land use practices and prospects for farming in their communities.

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CONSERVATION FARMING IN SELECTED AREAS OF THE SOUTHERN PIEDMONT

By

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SUMMARY

Approximately 80 percent of the survey acreage in Spartanburg County, S. C., and Walton County, Ga., is capable of development for farming purposes. About a fourth of the total could be used safely for row crops each year, and more than half for other crops or pasture. The rest is suited chiefly to timber production and related uses or is occupied by farmsteads and other miscellaneous uses.

Part of the land withdrawn from farming before 1953 was steep, eroded, or otherwise unsatisfactory even for pasture. Much of the other land in woods or open but unused for crops or pasture in 1953 would be of limited value for cotton or corn. But it could be redeveloped for production of winter grains, hay or forage, or to supply pasture or grazing for dairy or beef cattle.

In 1955, a high percentage of the land diverted from cotton as a result of the reapplication of allotments was used for other crops or shifted to pasture. A reduction of about 25 percent in the acreage of crops for harvest in 1958 stemmed mainly from the temporary assignment to the Acreage Reserve of most of the acres allocated to cotton. Although some crop and pasture fields were turned out or planted to protective crops for other reasons, nearly as many acres were restored to farming.

A major reduction in the number of acres planted to cotton, combined with a slight decrease in the acreage of corn, was reflected in a decline in the percentage of the cropland in row crops from about two-thirds in 1953 to a third in 1958.

Changes during the 5 years contributed to a concentration of approximately 60 percent of the acres of crops for harvest in 1958 on land of soil management group 1. Conversely, about a fifth of the acreage eliminated, at least temporarily, from crops consisted of land of group 1 soils, and more than a third was on group 2 land.

Often, choices of land, both for cotton and for setting aside in the Acreage Reserve were limited by the quality of the open land available in relation to the operator's requirements for cotton, other crops, and pasture.

Recent and prospective changes in ownership and operation are paving the way for overcoming traditional obstacles to a more complete as well as conservational use of the land resources in the survey and adjacent areas.

Further improvements in yields per acre of corn and other crops and in carrying capacities of pastures would help to meet the expanding demands for feed and roughages in these and neighboring States. Of equal importance, greater yields and carrying capacities per acre would enable additional operators, who were previously handicapped by lack of sufficient land, to shift partly if not completely from cotton.

Progress has been made in diversifying operations and adopting other conservation practices in the survey areas by farmers who have been in position to replace all or most of their cotton with other crops or improved pasture, either with or without buying more land. Elsewhere, progress has been retarded by the necessity for continuing to rely on cotton as the chief or an important source of income, and by inability to fully develop potentials for other crops and pasture, or to plant protective crops or trees on land not needed for agriculture in the immediate future or of little if any economic value for farming purposes.

THE PROBLEM

Early agriculture in the Piedmont of Georgia and South Carolina and in neighboring sections of North Carolina and Alabama was confined largely to growing crops and raising livestock for home consumption. As the country became more thickly settled, the menace of hostile tribesmen subsided, roads were built, and emphasis shifted to the growing of cotton. Upon the invention of the cotton gin in 1793, cotton assumed an importance that has been unchallenged until recent times.

As a rule, the acreages of bottom land along the rivers and creeks were limited, and farming had to be extended almost immediately to the adjacent slopes. Once this strongly sloping and often steep land was cleared, the heavy rainfall contributed to rapid loss of soil materials. After only a few seasons, continuous use for cotton or corn affected both tillage and yields. Frequently, gullies became so bothersome as to force abandonment of the fields to pine or brush.

Wash from the uplands clogged channels and the overflow spread over the narrow bottom lands on either side. Ultimately, many low-lying areas were covered by rocks and rubble from the gullies. Fields that once had grown good crops of corn year after year had to be taken out of cultivation.

The appearance of the boll weevil in the 1910's added another obstacle to the mounting hazards faced by cotton farmers. On the severely eroded lands, fertilization was insufficient to overcome the handicap of a late start in most seasons. Elsewhere, the application of fertilizer stepped up growth and thus enabled farmers to extend production of cotton to land previously regarded as poorly suited to cotton.

The new lands added to cotton offset only partly withdrawals of those that could no longer be used economically for this or other crops. Thus, by 1930, cotton had declined to about 2,300,000 acres in the Piedmont area of the two States. In the next 23 years, the acreage of cotton fell to approximately 700,000 acres. With the reapplication of allotments to the 1954 crop, the acreage of cotton was reduced by 200,000 acres, or to less than 25 percent of the 1930 acreage. Widespread participation in the Acreage Reserve Program, especially in 1958, helped to reduce the acreage harvested to only about a fifth of that harvested in 1953.

In response to the elimination of the Acreage Reserve Program and the addition of an alternative method for computing individual allotments, a considerable acreage was restored to cotton in 1959. Meanwhile, other land was shifted to the Conservation Reserve or allotments were not planted for other reasons. As a result, the acreage of cotton in 1959 probably was at least 25 percent lower than in 1955.

Since 1930, many operators have left farming or limited it to a few acres of cotton and subsistence crops. Others shifted from cotton to dairying or to production of beef cattle or commercial broilers. Some farmers tried to maintain as much acreage in cotton as possible. Their neighbors established peach orchards or turned to growing commercial truck crops on all or part of the land formerly used for cotton.

During these three decades, industrial expansion has provided both full- and part-time employment for many thousands of local people. Towns like Charlotte, N. C., and Spartanburg and Greenville, S. C., have become important industrial cities. With the rapid enlargement of the Atlanta milkshed, an increasing number of farmers in central Georgia have acquired or expanded their dairy herds. Others commute to work in this fast-growing industrial and transportation center. Since 1950, new industrial plants have been located in many smaller cities and towns. In 1958, this new development was providing a source of nearby employment for local residents who formerly depended upon farming or odd jobs for all or most of their livelihood. In many communities, it contributed also to a substantial construction boom in new business and residential housing.

Procedure

The survey on which this report is based was initiated in 1955. It was confined to two counties – Spartanburg County, S. C., and Walton County, Ga. – of the 10 selected for a study of the effect of the diversion of cropland from cotton and other control crops. 1/ Data were compiled to show the land resources in the survey areas and how farmers adjusted the uses of their crop and other lands to compensate for reductions in the acreages they were permitted to plant to cotton.

Additional information was assembled on the extent to which farmers rotated cotton and corn with close-growing crops or pasture and followed other practices for conserving soils and moisture. A resurvey was carried out in 1958 in order to learn what additional adjustments had occurred in crop and other uses, and to obtain data on some of the more significant changes in ownership and operation of the survey acreage in the intervening 3 years.

LAND USE AND CONSERVATION NEEDS

Conservation and maximum development would enable farmers to utilize about 80 percent of the survey acreage for crop and pasture purposes (table 1 and fig. 1). Of this potential farming area, approximately a third could be used safely for cotton and other row crops each year and the rest for close-growing crops or pasture. Fifteen percent is and should remain under forest cover. Less than 5 percent is occupied by farmsteads, residences, roads, and other miscellaneous uses or facilities.

Soil-Management Groups

Control of erosion is the chief need on all upland and terrace soils, or on more than 90 percent of the survey acreage (appendix table 16). It is needed

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1/ For added details of procedures and findings, consult Effects of Acreage Allotment Programs 1954-1955, U. S. Agr. Res. Serv. ARS 43-47, 1957; and Some Economic Effects of Cotton Acreage Diversions in the Piedmont Area of Georgia and South Carolina, 1953-1955, by C. P. Butler, S. C. Agr. Expt. Sta. Bul. 440, 1956. Further data on soils and related conditions in the two counties are supplied in Soil Survey of Spartanburg County, South Carolina, by W. J. Latimer, E. B. Deeter, S. O. Perkins, W. E. Hearn, and C. Van Duyne, Bur. of Soils, 1924; and Erosion and Related Conditions on the Lloyd Shoals Reservoir Watershed, Georgia, by P. H. Montgomery, Soil Conserv. Serv., 1940. The bibliography on pages 46 to 50 is included for those interested in additional and more specific information on the organization and operation of individual farms and prospects for farming in the Piedmont area.

Table 1. - Potential use with maximum development of land in survey areas, Southern Piedmont

Potential use	Acreage	Percentage of total
	Acres	Percent
Farming:		
Row crops	2,081	25
Other crops and pasture	4,618	57
Total	6,699	82
Timber production	1,188	15
Miscellaneous 1/	266	3
Total	8,153	100

1/ In farmsteads and similar uses in 1955.

also on part of the land for which effective control of water is the main requirement. Damages from periodic overflows or wash from the adjacent slopes pose problems on the low-lying soils of group 8. Providing adequate flood protection on the relatively wet soils of group 9 is not only more difficult, but improvements in drainage are needed if the land is to be used for purposes other than timber production, water storage, or range pasture.

The requirements for conserving soils and moisture are more complex on the soils of groups 2 and 3 than on those of group 1, and these soils can be used less frequently for row crops. The risk of damage from erosion and other physical and economic limitations on use become successively greater on the other upland and terrace soils. Restrictions on utilization of the soils of group 4 are so severe as to rule out their use for row or intertilled crops except in occasional years. The soils of group 5 are unsuited to cultivated crops but are adapted to hay or pasture as well as to timber production. Except when maintained permanently in protective cover, with use restricted to the cutting of hay or summer grazing by livestock, the soils of group 6 are recommended for forestry and related uses only. Those of group 7 cannot be used economically for forest purposes, but the individual areas are useful for wildlife refuges, watershed protection, or recreation sites.

Group 1

The Cecil, Appling, Lloyd, Madison, and other upland and terrace soils of group 1 comprise about a fourth of the survey acreage; they are situated on the broader ridges or interstream divides or on the stream terraces (fig. 2). Slopes are gentle (2 to 6 percent), and erosion ranges from slight to moderate. Moisture losses through runoff are lower and the intake of rainfall is greater than on the more sloping or eroded soils elsewhere on the uplands and terraces. Less workpower is required, and the lay of the land is more satisfactory for the operation of tractor-drawn equipment. Adequate terraces and

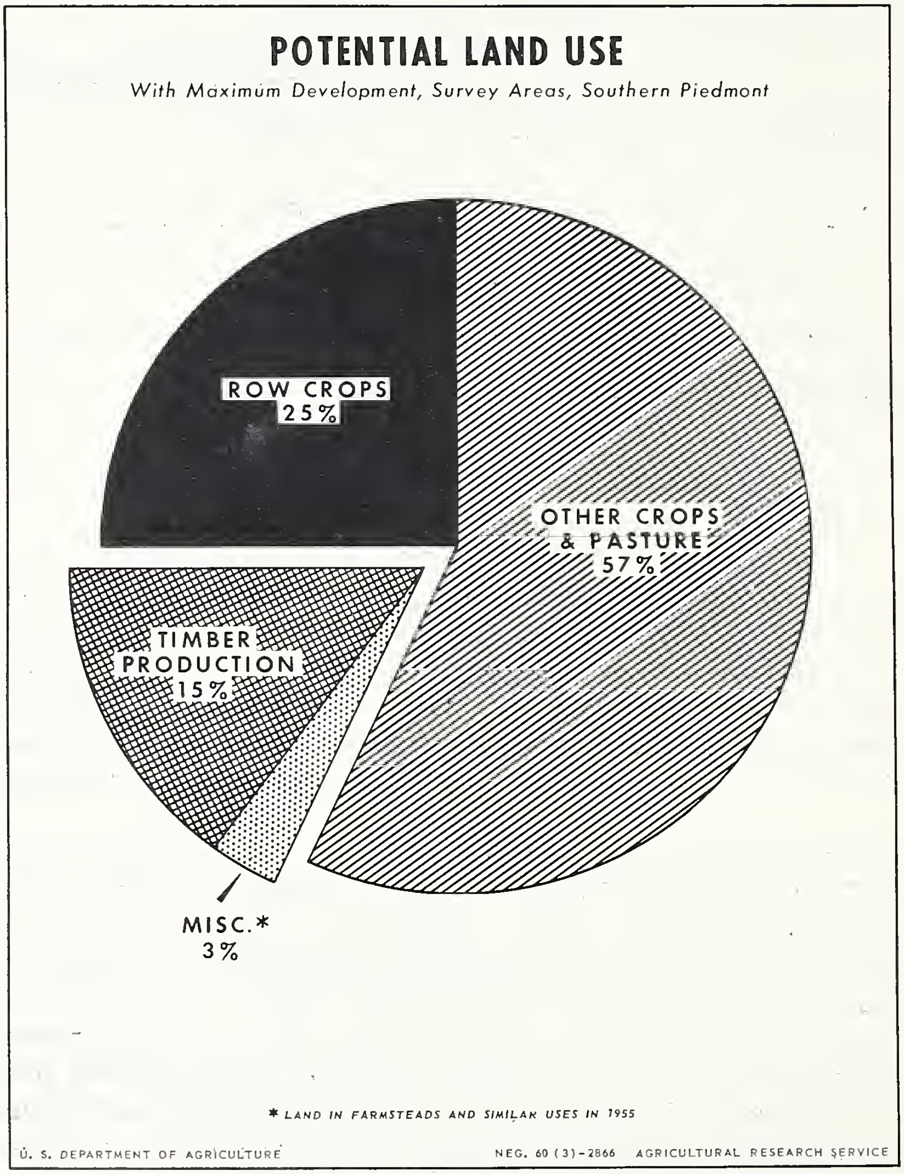

Figure 1. - More than 80 percent of the survey acreage could be developed for crops and pasture. Most of the rest is suited to timber production.

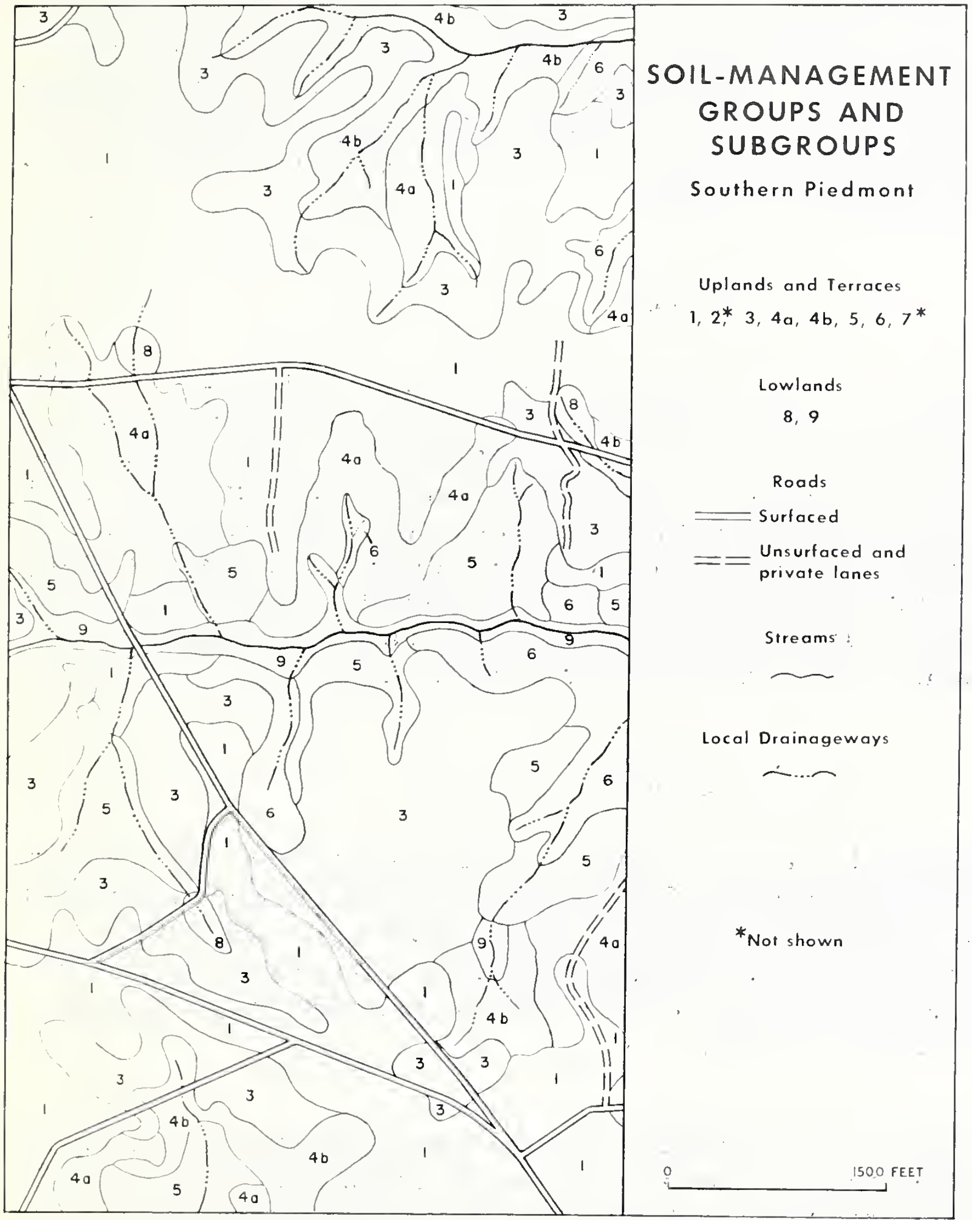

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Figure 2.- Present and future uses for farming, forestry, and other purposes in the Southern Piedmont are related closely to how much and what kinds of land are available locally.

protected outlets for disposal of local runoff need to be maintained. Such row crops as cotton and corn should be alternated in strips with close-growing crops or grasses and planted no oftener than every other year (appendix table 17). For protective purposes, fields should be planted to a winter cover crop after cotton or corn is harvested.

Group 2

The group 2 soils include approximately a fifth of the survey acreage and consist mainly of Cecil and Lloyd clay loams and Appling sandy clay loam. They occupy the same relative positions and slope gradients as the soils of group 1, but are more eroded. Thus, in addition to terracing, protecting outlets, and similar measures, more and costlier treatments are needed to rebuild soils and restore tilth, and it is necessary to limit the planting of row crops to an average of every third year.

Group 3

The Cecil, Appling, Lloyd, Madison, and other upland and terrace soils of group 3 occupy 9 percent of the survey acreage; they are situated on the edges of interstream divides or along the narrower ridges. Slopes are moderate (6 to 10 percent), and losses through past erosion, farm by farm, tend to be somewhat greater than on the adjacent soils of group 1. Maintaining adequate terraces and protecting outlets are more difficult and costly and layout of fields and use of machinery are more restricted than on the less sloping lands of groups 1 and 2. Otherwise, these soils are capable of sustaining about the same intensity of cultivation as the group 2 soils.

Group 4

The group 4 soils add to about a tenth of the survey acreage. The soils of subgroup 4a differ from the group 3 soils chiefly in the greater severity of erosion. Although the subgroup 4b soils are less eroded than the soils of subgroup 4a, they are situated on strongly sloping or fairly steep lands (10 to 15 percent slopes), between the lands on the interstream divides or ridges and some of the local watercourses.

Even when terraces are adequate or replacement of existing and usually poorly maintained structures is planned, the lands in subgroup 4a probably can be used to best advantage for winter grains, hay crops, or improved pastures. If needed for row crops, at least three-fourths of the field should be kept in grasses or legumes and the same land planted to cotton or corn no oftener than every fourth year.

Compared with the lands in subgroup 4a, the costs of installing and maintaining effective terraces on the subgroup 4b lands are greater, if not prohibitive, and farm machinery can be utilized less satisfactorily. Hence, farmers may find it desirable not only to reserve the high percentage of the acreage (approximately two-thirds) already in woodland for timber production, but to set out tree plantations on the open land.

Group 5

The Cecil and other upland soils of this group include 12 percent of the survey acreage. They are steeper (15 to 25 percent slopes), or when located on similar slopes are more severely eroded than the soils of group 4. When relatively free of trees or brush, conveniently located, or not too costly to clear and otherwise rehabilitate, they can be developed to supply reasonably fair pastures. In some instances, the fields withdrawn from farming restock rapidly to pines. In others, including many of the cutover tracts as well as abandoned fields, planting, accompanied by elimination of undesirable growth, will be necessary.

Group 6

The group 6 soils comprise about one-seventh of the survey acreage. They are steeper and more severely eroded (subgroups 6a and 6b) than the Cecil and other upland soils of group 5, or they consist of the shallow, rocky, or stony lands of the Louisburg series (subgroup 6c). Some fields have been or could be planted to kudzu for grazing when pastures are short or pasturing would impair stands. Otherwise, land of this category is and should remain permanently under forest cover.

Group 7

The small acreages of group 7 soils are located at the heads of a few of the drainageways; they have been so severely dissected by gullies as to be incapable of sustaining commercial tree growth. Such areas are or should be planted to kudzu or hardy shrubs in the interests of local watershed protection and similar purposes.

Group 8

Part of the limited acreage of group 8 soils is situated in draws or depressions at the foot of the uplands (Seneca and Starr series), and the rest consists of strips of bottom land bordering the larger creeks (mixed alluvium, well-drained). Although most areas are fairly accessible and control of excess water is not too difficult, few are sufficiently large to plant separately to corn and other adapted crops. As a result, individual areas usually are farmed in conjunction with the group 1 or other adjoining lands.

Group 9

The group 9 soils occupy 7 percent of the survey acreage. Problems of water control are not only greater than on the soils of group 8; they are almost completely forested, less accessible, and more frequently associated locally with lands in groups 5 and 6.

The Chewacla and Worsham soils and other rather poorly drained lands of subgroups 9a and 9b occupy narrow ribbons of bottom land or small pockets of local wash along the watercourses. They furnish sites for a fairly large number of farm ponds or small reservoirs, and are comparatively well suited to yellow poplar and other desirable hardwoods. When the adjoining slopes are not too steep, eroded, or otherwise too difficult to manage, they might be developed jointly for pasture purposes, provided (1) stream channels are cleared and straightened, (2) ditches are installed to intercept and convey local runoff, and (3) sources of wash are stabilized.

The small acreage of Colfax sandy loam (subgroup 9c) that is included in the survey consists of a few fairly large and depressed areas, at the heads of the drainageways or at the bases of the slopes and next the flood plains. In addition to protecting individual areas from wash and installing ditches, subsoiling or comparable measures are needed to improve internal drainage sufficiently for use satisfactorily for either crops or pasture.

LAND USE

Of the survey acreage, 42 percent was in cropland harvested in 1953 (table 2). Nineteen percent was in pasture, other open land, and such miscellaneous uses or facilities as farmsteads, dwelling sites, roads, lanes, farm ponds, and waste. Woodland accounted for 39 percent. Many of the operators in the survey areas needed land chiefly for cotton and subsistence crops. For them, only a few acres of open pasture sufficed for work animals and possibly for a milk cow or two. In contrast, others used all or most of their former cotton land to grow feed and forage, or to provide pasture for dairy cows or beef cattle.

A comparatively large acreage in the survey area and particularly in areas elsewhere in the two counties, consisted of former farmland. Part of this land was in ownership tracts that had been entirely reforested, or that contained some open land but were neither occupied nor farmed. Other tracts were occupied, but the owner or other residents were not farming and none of

Table 2. - Major uses of land, survey areas, Southern Piedmont, 1953

Use	Acreage	Percentage of total
	Acres	Percent
Cropland	3,411	42
Pasture	661	8
Other open land:		
Protective crops	179	2
Idle land	492	6
Total	671	8
Woodland	3,144	39
Miscellaneous 1/	266	3
Total	8,153	100

1/ Farmsteads and similar uses.

the open land was rented out to neighboring farmers. Near the cities and towns, especially, a number of former farms had been taken over as sites for housing projects, factories, and similar nonfarm developments.

Status of Adjustments in 1953

Significant adjustments had occurred before 1953 in the uses made of the land resources of the survey areas (table 3, fig. 3). A minor percentage of the acreage in soil management group 6 remained in cotton and other crops, and 90 percent was in woodland. Approximately 74 percent of group 1 soils but only 12 percent of the soils of group 5 were in crops for harvest. Less than half of the land of group 8 was in cropland, and very little group 9 land was used, even for pasture.

The distribution of pasture and other open land was influenced by differences in both the requirements of individual operators and the period of time since the fields were withdrawn from cultivation. As a result, some land of all groups was pastured, used for protective crops or lying idle, but the percentage was highest on group 3 soils.

An estimated 90 to 95 percent of the survey acreage was cleared and cultivated at one time or another. Some fields were abandoned earlier, but

Table 3. - Major uses of land, by soil-management groups, survey areas, Southern Piedmont, 1953

Soil-management group	Acreage	Percentage of land in -			
		Cropland	Pasture	Other open land	Woodland
	Acres	Percent	Percent	Percent	Percent
Uplands and terraces:					
1	2,131	74	6	12	8
2	1,577	66	10	10	14
3	665	46	18	8	28
4	833	33	4	12	51
5	926	12	9	6	73
6	1,105	3	5	2	90
Lowlands:					
8	131	45	20	1	34
9	519	2	10	6	82
All groups 1/	7,887	43	8	9	40

1/ Excludes 266 acres in farmsteads and similar uses, 4 acres of which are in soil management group 7.

most of the reforested land was withdrawn from farming after 1920. By 1953, about three-fourths or more of the acreages on soils of groups 5, 6, and 9 were in woodland. Two-thirds of the land of subgroup 4b was wooded, compared with approximately a third of the lands of subgroup 4a and groups 3 and 8. Such lands of groups 1 and 2 as were in woodland were confined mainly to the smaller and less accessible areas.

Changes Since 1953

The reapplication of allotments to cotton after 1953 resulted in a slight decrease in the percentage of the survey areas in crops for harvest in 1955, and a corresponding increase in the acreage pastured, lying idle, or used for protective crops (appendix table 18).

Compared with approximately 40 percent of the survey acreage in 1953 and 1955, only 30 percent was in crops for harvest in 1958. Whereas the proportion of other open land expanded only from 8 to 10 percent between 1953 and 1955, it increased to 17 percent in 1958. The percentages did not change appreciably, but the acreages in pasture, woodland, and miscellaneous uses were greater than in either of the former years.

Assignment by most farmers of their entire cotton allotments to the Acreage Reserve accounted largely for the reduced area in crops for harvest in 1958. A few others committed part of their cotton or all of their wheat allotments to the program, and an equally small number placed the rest of their cropland in the Conservation Reserve. Otherwise, the land restored to crops and pasture about equaled the acreage turned out or converted to protective crops.

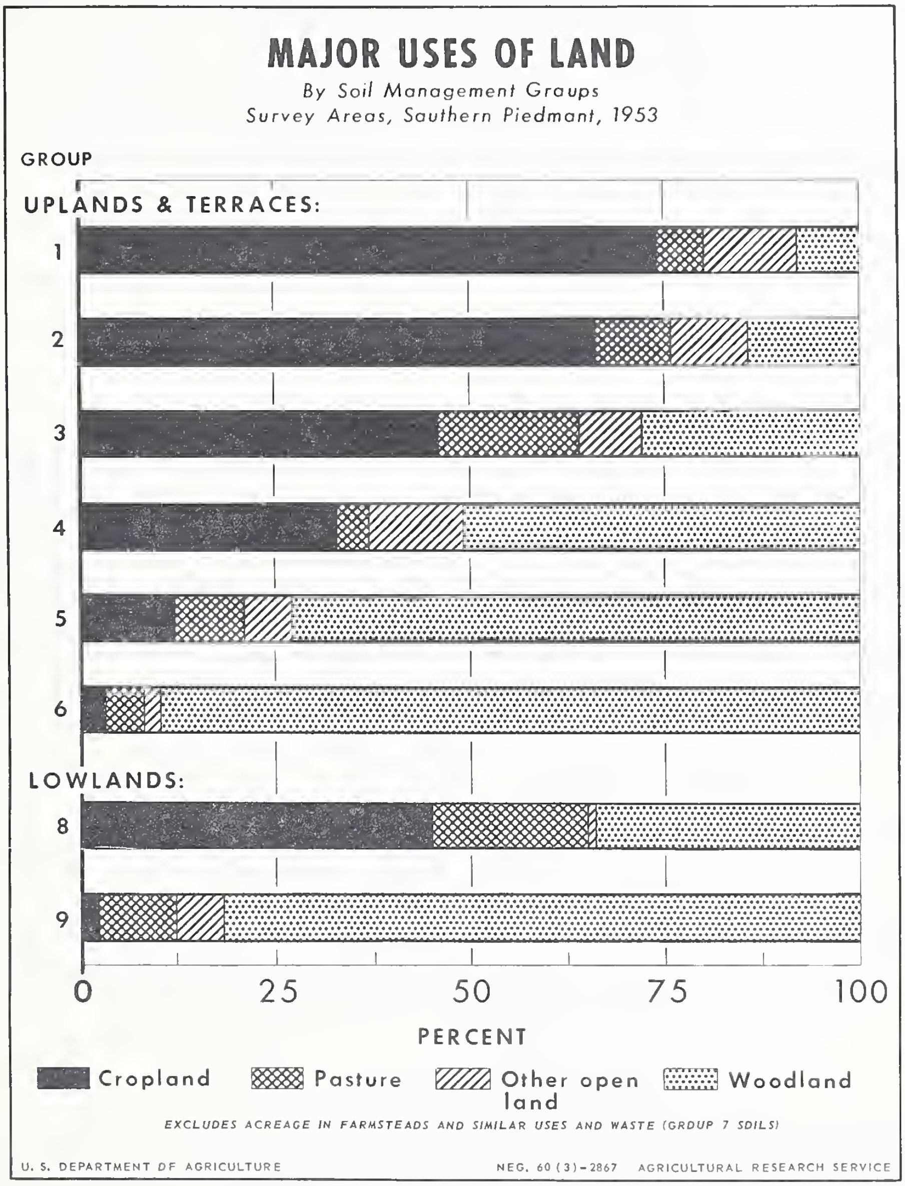

Figure 3. - Past adjustments to basic resources were reflected in the distribution of the crop and other land in the survey areas in 1953.

A number of the operators carried out their intentions, as expressed when they were visited in 1955, of shifting from cotton to production of feed, forage, and pasture for their expanding herds of beef cattle. Others increased their acreages of orchard, either as a specialty crop or in combination with the raising of beef cattle. Some idle fields may have been restored to crops or pasture to compensate for the temporary loss of cropland assigned to the Acreage Reserve, but the bulk of the acreage was reconverted in order to enlarge and diversify current and future operations.

Only a few operators left farming entirely, sold off their equipment and livestock, and placed all their eligible land in the Soil Bank. Some crop fields were turned out because of the age or poor health of the owner; lack of time, help, or facilities; or inability to rent out the land to neighboring farmers. Others were eliminated from crops for such reasons as smallness, poor location, inadaptability to the use of farm machinery, or inability to produce satisfactory crops without rehabilitation. In still other instances, fields were temporarily idle, pending completion of fencing, reterracing, and other steps required to develop improved pastures. The pastures idle in 1958 were not needed as a result of the replacement of work animals by tractors, and the disposal of such milk cows and other stock as had been kept mainly for production for home consumption.

Usually, the fields set aside in the Acreage Reserve were planted to a legume-grass mixture, both to improve the soil and to keep down infestations of weeds that would interfere with cultivation when restored to cotton or converted to other crops. Of the limited area under contract to the Conservation Reserve, a large percentage consisted of the acreage planted to sericea by a farmer who had ample crop and pasture land to undertake a long-term program of reclaiming some of his most seriously rundown cotton and corn fields for pasture.

Prior to restoration to crops or pasture, sprouts and all or most of the scattered tree growth were eliminated from the terraces and drainageways of old fields. In some localities, other fields, including those abandoned for an equally long or longer period, could be restored to farming in this way. Otherwise, natural restocking was proceeding so rapidly as to necessitate reclearing the land of pines and desirable hardwoods several inches in diameter.

Adjustments in Land Use

Unlike the earlier adjustments, more than half the acreage removed at least temporarily from crops between 1953 and 1958 was on groups 1 and 2 soils (appendix table 19). In contrast to a decline of 12 percent on group 1 soils, the cropland on the soils of group 2 was lowered by more than a third. Half or less of the acreage in 1953 on groups 3 and 4 lands, and only a residual acreage on the lands of groups 5, 6, and 9, were retained in active cultivation. Minor net additions to the acreage pastured on the soils of groups 1 through 4 more than offset the reductions on groups 5, 6, and 9 soils. Of the 731 acres added to the land planted to protective crops, set aside in the Acreage or Conservation Reserve, or idle for other reasons, 38 percent (280 acres) was on group 2 land and an additional 38 percent was on soils of groups 1 and 3. Half of the small expansion in acreage of woodland was on the soils of groups 5, 6, and 9.

These changes in the use of the survey acreage in the 5-year period were reflected in the concentration on group 1 land of three-fifths of the acreage of crops for harvest in 1958 (appendix table 20). The percentage of the combined acreages of open land on the soils of groups 2 and 3 was increased from 31 percent in 1953 to 46 percent in 1958. Nevertheless, more than a fourth of the acreage in 1958 was on group 1 soils.

Cropland Harvested

In 1953, more than two-fifths of the cropland harvested in the survey areas was in cotton (table 4). An additional fourth each was in corn and winter grains. Including the acreage harvested as a second crop, approximately 12 percent was in summer hay and forage crops. The other 7 percent was in orchards and truck crops.

Despite reduction of the cotton acreage by approximately a third in 1955, the acreages of other crops were expanded, and the total acreage for harvest was 94 percent of the 1953 acreage (appendix table 21). A further increase in acreage of crops other than cotton in 1958 was insufficient to offset the reduction stemming from the temporary assignment to the Acreage Reserve of most of the land allotted to cotton. As a result, the acreage of cropland harvested was less than three-fourths as large as it had been earlier.

Changes in the Cropping System

The percentage of the cropland harvested in the survey areas in row crops was reduced from 69 percent in 1953 to 59 percent in 1955. The decline in the acreage of corn was minor, but the magnitude of the reduction in the acreage planted to cotton was such as to reduce the proportion in intertilled crops to 37 percent of the area in crops for harvest in 1958. The acreage in orchards more than doubled between 1953 and 1958. Only a small acreage was in truck crops in 1953, and the increase in the number of acres in commercial truck crops in the next 5 years about offset the decrease resulting from elimination of some of the gardens and truck patches formerly used for production of vegetables for home use. The acreage of close-growing crops showed a fairly substantial increase in 1955 and again in 1958.

Table 4.- Cropland in cotton and other crops, survey areas, Southern Piedmont, 1953, 1955, and 1958

Crop	1953		1955		1958	
	Acres	Percent	Acres	Percent	Acres	Percent
Row crops:						
Cotton	1,553	45	1,043	32	177	7
Corn	814	24	864	27	731	30
Total	2,367	69	1,907	59	908	37
Close-growing crops 1/	799	24	984	31	1,007	42
Orchards	185	5	252	8	435	18
Truck crops	60	2	74	2	69	3
Total	3,411	100	3,217	100	2,419	100

1/ Winter grains and hay or forage, grown mainly as 2 crops from the same fields in the individual years.

The acreage of cotton in the survey areas in 1958 was only 11 percent as large as in 1953. Participation in the Acreage Reserve Program was slightly greater among farmers in the survey areas than among those in the two counties as a whole. Throughout the Piedmont area of the two States, the acreage retained in cotton was equal to about a fifth of the acreage in 1953 and to less than a third of that in 1955.

When farmers had beef cattle or other livestock to winter, the fields not set aside in the Acreage Reserve in 1958 were utilized chiefly for production of corn and a combination of winter grains and summer hay or forage. When few if any livestock were kept, corn was planted as a cash crop on all or most of the cropland not assigned to the program. On other farms, all fields, including those formerly pastured or lying idle, as well as the ones planted to cotton and other crops, were converted to peach orchards. Frequently, when corn had been grown as a subsistence crop, the operators preferred to shift to winter grain, either as a cash crop or a source of feed for farm livestock.

Adjustments to Physical Capabilities

Only minor percentages of the cotton and other crops for harvest in 1953 were planted on lands unsuited to cultivated crops (appendix table 22). The percentages of the various crops on groups 3 and 4, as well as on groups 5,6, and 9 soils showed little reduction in 1955, but negligible acreages were retained in crops in 1958.

Because many farmers were limited in their choice of fields to plant to cotton in 1955, there was little increase in the proportion on land of soil management group 1. In 1958, only a small percentage of the operators elected to plant all or at least part of their allotments. Unlike the situation confronting the majority of those who elected to place their entire allotments in the Acreage Reserve, they had sufficient cropland to plant their cotton crop on group 1 land or land which, in response to past management, was about equally well suited to cotton.

In 1953 and 1955, corn remained subordinate to cotton on most farms on which both crops were grown, and a fairly high percentage of the acreage was planted on the less desirable lands. In contrast, the percentage of the corn crop on group 1 soils was enlarged from about two-fifths in previous years to more than two-thirds in 1958.

The need to install supplemental irrigation facilities as well as to minimize the costs of terracing placed an increasing premium on group 1 and other less sloping lands (groups 2 and 3 and subgroup 4a) for expanding the acreage of orchards. Furthermore, instead of interplanting cotton or other crops for the first year or two, as was ordinarily done in the past, most orchardists seeded both terraces and intervening strips immediately to perennial legumes or grasses.

Part of the acreage of close-growing crops, especially winter wheat, was grown on ownership tracts lacking, or with only small, cotton allotments. Hence, about half the acreage was planted on group 1 soils in 1955 and 1958 as well as in 1953. The rest was on land over which combines and other equipment could be operated readily, or in patches used to put up hay for the operator's work animals.

Farm Pastures

Existing pastures varied greatly, in both physical qualities of the land utilized for this purpose and carrying capacities per acre. The improved pastures on fields shifted from cultivation as early as 1930 or 1940 showed few signs of the residual effects of prior use for row crops. High carrying capacities were maintained by such measures as periodic reseeding, frequent applications of plant nutrients and lime, control of weeds and brush, and rotation of dairy and beef cattle from pasture to pasture.

When improved pastures were of more recent establishment, some of the worn or thin spots were not rehabilitated sufficiently to withstand completely extended periods of dry, hot weather. Nevertheless, the stress placed by the operators on these and other management practices contributed to a rapid upgrading of carrying capacities per acre.

Elsewhere, pastures were less satisfactory. This was true especially when former cotton and corn fields were relegated to pasture without reconstruction of terraces, removal of brush, and adoption of other measures necessary to establish and maintain adequate sods. It was true, also, not only when soils, notably those of group 6, were susceptible to deficiencies of rainfall and to high summer temperatures, but when it was necessary to keep livestock on the same fields throughout all or most of the year.

Land Restored to Farming

Very little idle land was reconverted to farming between 1953 and 1955, but as many acres were restored to crops or pasture as were turned out in the next 3 years. Removal of brush or sprouts from fields restored to farming was limited largely to the old terraces and strips along the local drainageways. Most of the growth encountered was too small or too sparse to interfere with plowing or reconstruction of terraces. When removal was desired, such trees as had attained diameters of 2 or 3 inches were pulled by attaching a chain to the tractor at the time of rebreaking. If intended for pasture, the more desirable trees were left to provide shade for the owner's beef cattle or other livestock.

Other Open Land

Nearly 700 acres were idle or in protective crops (sericea and kudzu) in the survey areas in 1953, and there was an expansion of about 25 percent in the acreage in these categories in 1955 (table 5). Most of the increase in the next 3 years represented land set aside temporarily to meet commitments to the Acreage Reserve. A small acreage was assigned to the Conservation Reserve, and the acreage in protective crops was enlarged. Otherwise, the open land not used for crops or pasture in 1958 was only about two-thirds as great as in 1955.

The small acreage of kudzu in 1953 was planted chiefly to stabilize some of the badly eroded and gullied areas, and most spots were too small and inaccessible for pasturing. Much of the fairly large acreage of sericea was planted on former cotton fields and others on which the crop could be mowed readily for hay or combined for seed. Like the kudzu, very little was pastured and only small areas were planted for protective purposes on the terraces and along the local drainageways.

Most of the increase between 1953 and 1955 consisted of the acreage of sericea planted for seed as well as for more adequate cover and to rebuild

Table 5.- Composition of open land not used for crops or pasture, survey areas, Southern Piedmont, 1953, 1955, and 1958

Land use	1953	1955	1958
	Acres	Acres	Acres
Protective crops 1/	179	227	300
Idle land:			
Acreage Reserve	2/	2/	653
Conservation Reserve	2/	2/	50
Other	492	612	399
Total	671	839	1,402

1/ Sericea and kudzu.
2/ Programs not operative.

depleted soils. The expansion of the area in protective crops in 1958 was accounted for mainly by the fairly large acreages planted by two farmers under a long-term program for reclaiming part of their former cotton and corn fields for improved pasture. Meanwhile, one assigned his land temporarily to the Acreage Reserve, and the other placed his land under contract in the Conservation Reserve.

Including the small acreage assigned to the Conservation Reserve, 703 acres, or about three-fifths, of the 1,102 acres of idle land in 1958 were set aside in the Soil Bank. Less than half of the rest was used for crops or pasture in 1955, and about a fourth was withdrawn from farming before 1953.

Farm Woodland

Compared with the limited restocking to trees of part of the fields withdrawn from farming before 1953, others were in a sufficiently advanced stage of reforestation by then as to contain a fairly complete canopy of pines or bottom-land hardwoods of 4 to 5 inches diameter or more in 1958. Some of the fields taken out of crops or pasture during the 5 years were beginning to restock, but others will require planting, even if active cultivation is not resumed. Similarly, the stands on part of the timber tracts, especially those in process of reforestation since about 1930, were adequate, but the rest included a large percentage of cull, defective, and other trees of little prospective commercial value.

Miscellaneous Uses or Facilities

Between 1955 and 1958, a former farm on the edge of a nearby town was sold for a housing development. Elsewhere, a minor increase in the acreage in miscellaneous uses or facilities was accounted for chiefly by the addition of farm and other rural residences along some of the all-weather roads and near local centers of employment, and the construction of additional farm ponds or small reservoirs for the purpose of providing water for supplemental irrigation.

LAND SELECTION

Like other Piedmont farmers who continued to grow at least some cotton, the operators in the survey areas gave first priority to cotton whenever possible in their selection of land for crops in 1953. Of the open land, that in soil management group 1 included the most satisfactory combination of physical characteristics for good cotton crops in adverse as well as more favorable seasons. The desirability of the rest of the open land for cotton was limited in varying degree by the increasing difficulties and costs of terracing and cultivation, poorer response to applications of plant nutrients, and other shortcomings.

Choices in 1955 as well as in 1953 were further limited by differences in the quality of the land and the relative importance of cotton in the economy of individual ownership units (table 6). Of the 81 separate ownership units in the survey areas in 1955, a fourth contained 27 percent of the open land on soil management group 1, but only 8 percent of the cotton. At the other extreme, another fourth included less than 10 percent of the open land on the group 1 soils, compared with a third of the cotton.

Thus, despite a reduction in acreages of about a third, many farmers found it necessary to plant to cotton in 1955 the same fields that were in cotton or corn in 1953. For this reason also, some farmers had to assign all or most of the cropland on group 1 soils to the Acreage Reserve in 1958. Conversely, others could designate fields at least partly on the soils of groups 5, 6, and 9, but had little if any acreage of land on group 1 soils for crops other than cotton.

Cotton Land

Some 71 percent of the 1955 cotton acreage was planted on fields in cotton in 1953 (table 7). Another 14 percent was in corn. Only 11 percent was in close-growing crops, and even smaller percentages were idle or in pasture.

The layout of this farm has been adjusted to the diversities that affect the use of Piedmont lands for cotton, other crops, pasture, and woodland. (Soil Conservation Service SC-D10-30)

Of the acreage in cotton in 1953, 47 percent was planted to cotton in 1955 (appendix table 23). Including the acreage diverted to corn, about two-thirds was retained in intertilled crops. Most of the rest was planted to winter grains, either as a single crop or followed by a crop of summer hay or forage.

Less than 10 percent of the 1955 cotton acreage was planted to cotton in 1958 (appendix table 24). Twenty-eight percent was shifted to corn, 24 percent to close-growing crops, and 23 percent was placed in the Acreage Reserve. Eleven percent was set out in orchards. The remaining 5 percent was planted to protective crops, turned out, or converted to pasture or residential use.

The Soil Bank

Participation in the Acreage Reserve Program contributed to at least a 1- and often a 2-year respite from intertilled crops for a substantial percentage of the cropland in the survey areas (appendix table 25). Of the 653 acres set aside directly in the program in 1958, more than 400 were in cotton and corn in 1955. Most of the rest was in close-growing crops.

Table 6.- Acreage of cotton in relation to acreage of open land on group 1 soils by specified ownership units, survey areas, Southern Piedmont, 1955

Quartile 1/	Ownership units	Cotton		Open land on group 1 soils 2/	
	Number	Acres	Percent	Acres	Percent
First	20	87	8	546	27
Second	21	315	30	848	41
Third	20	293	28	476	23
Fourth	20	348	34	174	9
Total	81	1,043	100	2,044	100

1/ Ownership units arrayed according to the ratio of cotton acreage to the total open land on soil management group 1.

2/ Includes minor acreages of group 8 soils.

Table 7. - Uses in 1953 of the cotton acreage harvested in 1955, survey areas, Southern Piedmont

Land use in 1953	Cotton acreage, 1955	
	Area	Percentage of total
	Acres	Percent
Cotton	736	71
Corn	149	14
Close-growing crops	113	11
Pasture	20	2
Other open land	25	2
Total	1,043	100

Nearly a fourth of the cropland committed to the Acreage Reserve was in soil management group 1, and more than two-fifths was in group 2. Approximately 10 percent each was taken from the cropland in groups 3 and 4, and 13 percent from that in groups 5, 6, and 9.

Three-fifths of the small acreage placed in the Conservation Reserve was composed of former cropland of the group 4 soils. Another 10 percent was on land of groups 5, 6, and 9. Only 30 percent, consisting of the rest of the eligible cropland on two small farms whose owners had retired, was on groups 1 and 2 soils.

LAND OWNERSHIP AND OPERATION

A number of owners in the survey areas added adjoining or nearby farms to their holdings in the 1953-58 period in order to enlarge and diversify their operations, or to shift completely from cotton. Others bought farms for commercial dairying or production of crop or livestock specialties, either as the chief source of income or to supplement their incomes from nonfarm sources. Still others assumed full operation of farms on which part of the open fields were rented out to neighboring farmers in 1953 and in some instances in 1955. Farming was suspended on only four units. One former farm was converted to a housing development. Small lots were sold off the frontages of a few other farms for construction of rural residences.

These and other changes in ownership and operation, including those accomplished before 1953, have enabled an increasing number of farmers to reduce intensity of cultivation and use effectively land that formerly contributed little if anything to the farm income. Nevertheless, further changes in forthcoming years will be necessary in order to overcome such obstacles as those posed by (1) the small acreage in the majority of existing ownership units, (2) the dispersal of a relatively large number of holdings over two or more separate properties, (3) the continued reliance of many farmers on rented land, and (4) the prevalence of idle or semi-idle farms.

Individual Properties

As is typical of other parts of the Piedmont, much of the rural land area of Spartanburg and Walton Counties has been split up into small ownership tracts. The survey areas included 113 separate or noncontiguous properties in 1955, or an average of only 72 acres per tract (table 8). About half consisted of less than 50 acres. Only four contained 200 or more acres.

Without operation in conjunction with other land or further consolidation, only the few tracts of 200 acres or more contained a fairly adequate acreage, either for conventional farming including cotton or for large-scale dairying or

Table 8. - Number and percentage of properties, and average acreages in all land, open land, and cropland, by size of property, survey areas, Southern Piedmont, 1955

Size of property (acres)	Properties		Average acreage of –		
			All land	Open land	Cropland
	No.	Pct.	Acres	Acres	Acres
Less than 25	23	20	14	11	9
25 to 49	30	27	36	25	21
50 to 99	29	26	70	47	29
100 to 199	27	24	127	62	47
200 or more	4	3	322	177	115
All sizes	113	100	72	42	30

the raising of beef cattle (appendix table 26). Even with the full development of potentials for farming, the properties of less than 25 acres would supply an average of only 12 acres for crops and pasture. Except for small-scale production of cotton, the rest of the individual tracts of less than 50 acres are suited chiefly to a crop or livestock specialty with small or limited requirements for land, or to supplement incomes from sources other than farming.

The properties ranging from 50 to 199 acres would supply a larger acreage for crop and pasture purposes, especially if the more desirable and accessible land in woods was recleared and restored to farming. Yet even on ownership tracts of 100 to 199 acres, an average of less than 30 acres could be used safely for row crops each year, and the retention of other than a small acreage of cotton would interfere with production of feed grains in conjunction with use of the rest of the open land for forage crops and pasture. By eliminating cotton, probably all or most tracts could be developed for commercial dairying, provided part of the concentrates were bought. Otherwise, they might be developed for full-time farming by combining crops of such high per-acre values as peaches or commercial truck crops with a dairy or beef cattle enterprise.

Ownership Units

Title to the 113 individual properties in the survey areas was held by 81 separate owners in 1955 (table 9). The 62 single-property units included approximately three-fourths of the ownership units, but contained less than

Table 9.-Number and total acreage of ownership units of 1, 2, and 3 or more separate tracts, survey areas, Southern Piedmont, 1955

Tracts per ownership unit	Ownership units		Acreage	
	Number	Percent	Acres	Percent
1	62	76	4,628	57
2	12	15	1,226	15
3 or more	7	9	2,299	28
Total	81	100	8,153	100

three-fifths of the acreage. In contrast, the ownership units consisting of three or more separate tracts occupied more than a fourth of the acreage although representing less than 10 percent of the total units.

At various times prior to 1955, some owners were able to buy adjoining or nearby properties to add to their holdings (fig. 4). If, as often happened, such near-at-hand tracts were not for sale, others were forced either to buy land several miles distant from their headquarters or to rely on leasing such land in the neighborhood as was offered for rental by owners who did not desire to farm or were unequipped for farming.

Since 1955, the availability of tracts for sale in their communities has enabled additional owners to enlarge their holdings, diversify their former cropping systems, or shift out of cotton. When the tracts were located in the immediate vicinity, loss of time, added wear on equipment, and other inconveniences involved were reduced below those sustained when necessary to move machinery and equipment from locality to locality. When the added tracts adjoined the original holding, the layout of fields could be redesigned in the interest of both conservation and more efficient operation of planting, harvesting, and other equipment.

Occupational Interests

Only about a third of the 81 owners of the survey acreage were engaged almost solely in farming in 1955 (appendix table 27). A fifth were conducting businesses or working for salaries or wages in addition to farming. Nearly half were not farming; they were (1) occupied at a business or profession or were employed in local factories or at various trades or services, or (2) were retired, physically unable to work, or not gainfully employed for other reasons. The units held by owners who combined farming with other occupational interests averaged 167 acres, or about double the average of those held by owners occupied chiefly at farming and by nonfarmers.

Ownership and Rental

With one exception, the operations of 54 farmers were confined exclusively to the survey areas in 1955. These farmers owned two-thirds of the survey acreage and rented an additional fifth (table 10). The rest of the survey land consisted of the residual acreages on ownership units that were retained under the control of the owners or rented to farmers other than the 54 operators.

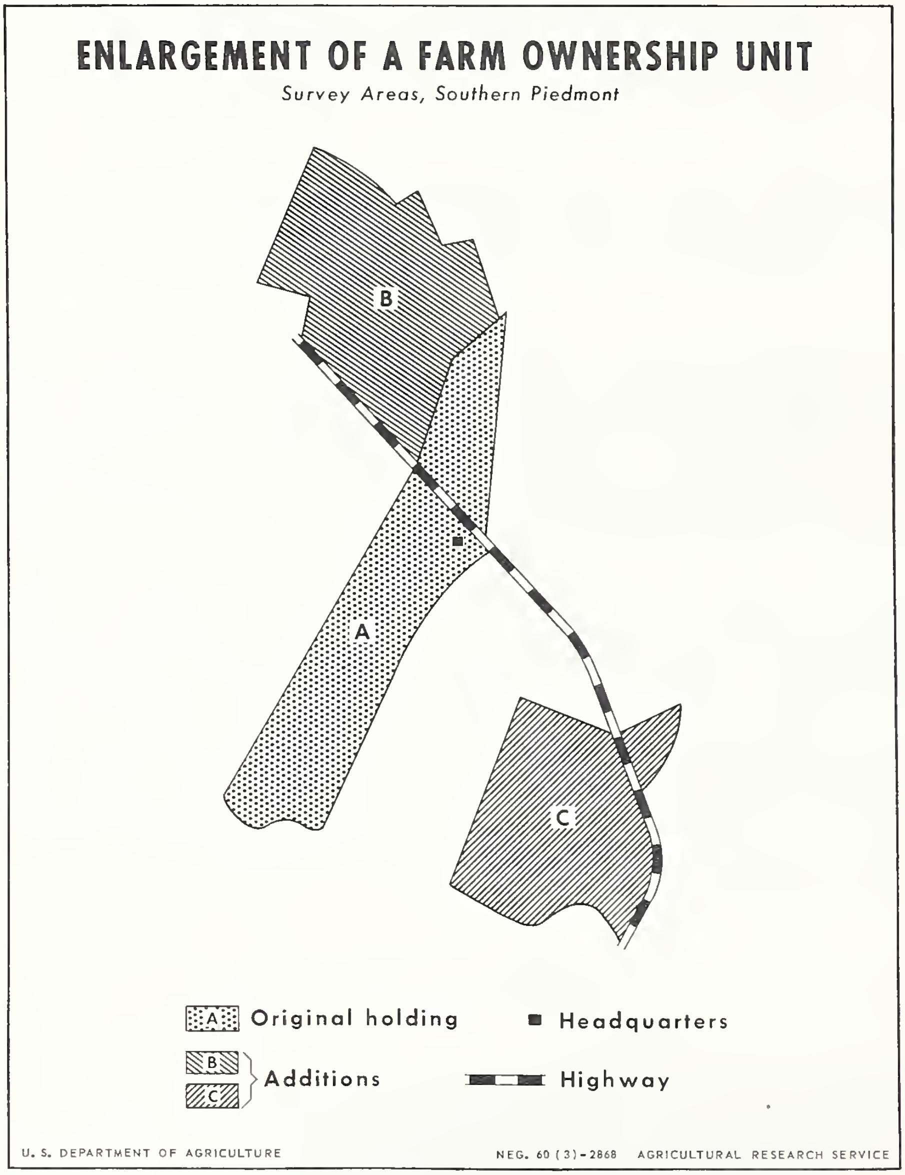
ENLARGEMENT OF A FARM OWNERSHIP UNIT
Survey Areas, Southern Piedmont
B
A
C
A Original holding
Headquarters
B
C
Additions
Highway
U. S. DEPARTMENT OF AGRICULTURE
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Figure 4. - Opportunities since 1955 for buying adjoining or nearby tracts have enabled additional farmers to make similar enlargements of their holdings.

Table 10. - Major uses of land, by ownership and rental status, survey areas, Southern Piedmont, 1955

Land use	Acreage	Land operated by 54 farmers			Other land
		Owned	Rented		
			Entire units	Individual fields	
	Acres	Percent	Percent	Percent	Percent
Cropland	3,217	66	13	17	4
Pasture	692	80	6	0	14
Other open land	839	48	12	0	40
Woodland	3,139	63	14	0	23
Miscellaneous 1/	266	58	8	0	34
All land use	8,153	66	12	6	16

1/ Farmsteads and similar uses.

Of the 54 operators, 44 held title to all or part of the acreage they farmed, 10 rented entire farms, and 17 rented additional fields for cotton and other crops. The land owned by the 44 operators included four-fifths of the pasture, and a little less than half of the other open land, compared with about two-thirds of the cropland, the woodland, and the land in miscellaneous uses. The 10 rented farms contained 13 percent of the cropland, about equal percentages of the other open land and the farm woodland, but lesser percentages of the acreage pastured or occupied by dwellings and similar facilities. Nearly a fifth of the cropland was on fields rented individually by the various operators.

Only 4 percent of the cropland was on fields handled by the owners themselves or rented out to farmers other than the 54 operators. None of the pasture acreage was rented out, and only a small acreage was utilized on the few units on which some livestock were kept. Because the owners were unable to farm or to rent out more fields to survey or other operators in the vicinity, more than 300 acres, or 40 percent, of the other open land was included. For similar reasons, they retained woodland amounting to 23 percent of the acreage in this class in the survey areas and, counting the relatively large acreage used for residential and related purposes, a third of the land in miscellaneous uses.

Farm Operations

Twenty-six of the 54 operators were farming on a small scale in 1955 and only 5 farmed 150 acres or more (table 11 and fig. 5). Of the 23 who farmed on a medium scale, only 4 operated as many as 100 acres.

The 26 farmers who operated on a small scale averaged only 24 acres of crops and 5 acres of pasture. An average of 6 acres, or a fifth of the open land, was idle or in protective crops. Twenty-nine acres per farm, or more than two-fifths of the entire acreage in the units, was in woodland.

The 23 operators who farmed from 50 to 149 acres harvested an average of 64 acres of crops and pastured an average of 17 acres, or about triple the acreage on those farms operated on a small scale. Otherwise, about the same acreages per farm were idle or in protective crops and in woodland as on the operating units with less than 50 acres in crops and pasture.

The five operators who farmed on a large scale averaged 194 acres of cropland and 27 acres of pasture. Of the other open land, 35 acres per farm were in protective crops, and on the average, 23 acres were idle. Woodland averaged 194 acres per farm, and the percentage of the total acreage in woodland was higher than on farms operated on a medium scale. Compared with an average of only 2 or 3 acres on other farms, 11 acres of the large-scale farms were in farmsteads and related uses or facilities.

Table 11. - Major uses of land, by size of farm, survey areas, Southern Piedmont, 1955

Size of farm 1/	Farms	All land	Average acreage in -				
			Cropland	Pasture	Other open land	Wood-land	Miscel-laneous
	Number	Acres	Acres	Acres	Acres	Acres	Acres
Small ----	26	66	24	5	6	29	2
Medium --	23	119	64	17	4	31	3
Large ----	5	484	194	27	58	194	11
All farms -	54	127	57	12	10	45	3

1/ In terms of acres used for crops and pastures:

Small------------- Less than 50 acres
Medium----------- 50 to 149 acres
Large ------------ 150 acres or more

Farm Enterprises

The 26 farmers who operated on a small scale in 1955 averaged 7 acres of cotton and 8 acres each of corn and close-growing crops (appendix table 28). Only six produced small quantities of corn or other feed grains for sale. Most maintained gardens or truck patches for home use, but only three operated small orchards. Four operated, or were in process of adding, a broiler enterprise. Of the 19 requiring pasture, 13 used a few acres for turning out their work animals or for pasturing a milk cow or two or a calf or yearling for butchering in the late fall or winter. The other six carried some beef cattle on pasture in conjuction with production of their feed and forage requirements on the cropland not planted to cotton.

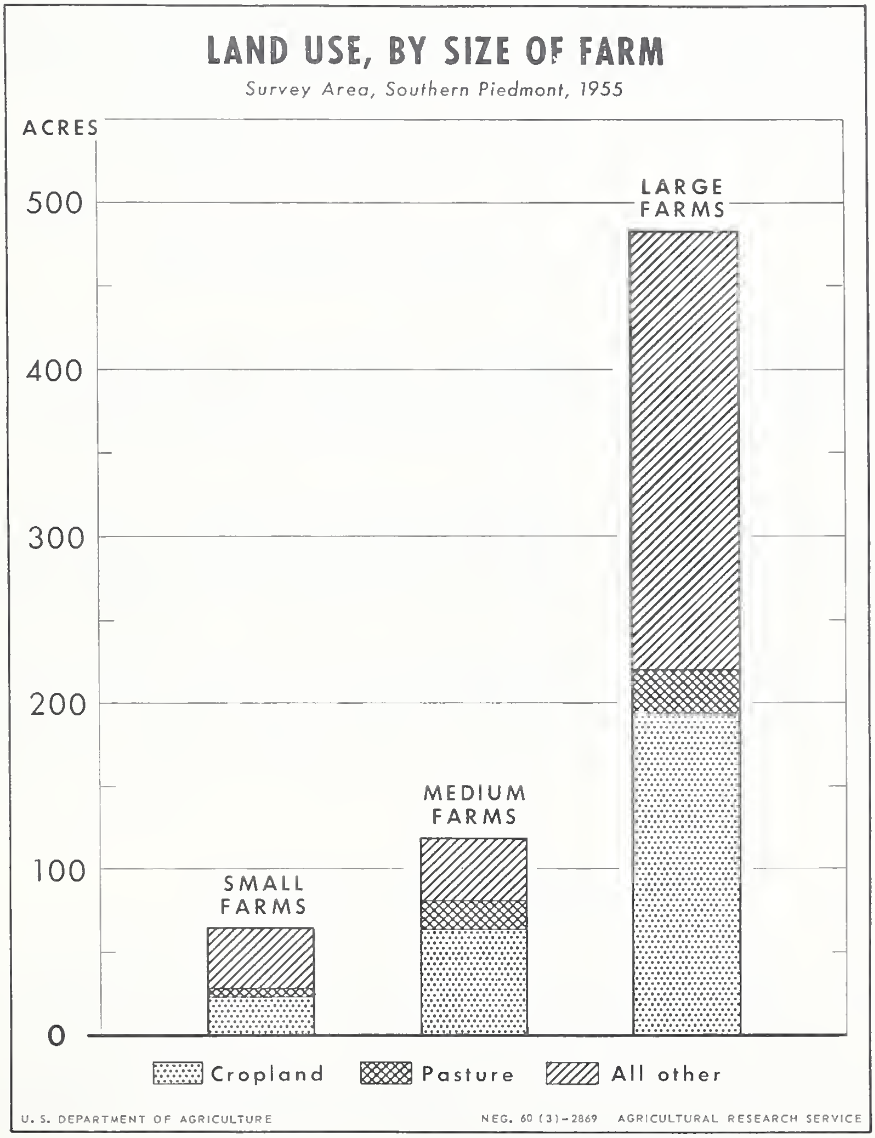


Figure 5.- In 1955, about half of the 54 survey operators farmed less than 50 acres, and only 5 had 150 acres or more in crops and pasture.

The 23 farmers who operated on a medium scale harvested an average of 22 acres of cotton, 17 acres of corn, and 21 acres of winter grains, which were grown as single crops or followed by summer hay or forage. Three of the five with orchards were expanding operations. Two produced commercial truck crops. Two were engaged in commercial dairying on a comparatively large scale but retained small acreages of cotton. Ten were in process of building up herds of beef cattle ranging from 5 to 25 head. Eleven others produced varying quantities of feed grains for sale.

The five farmers who operated on a large scale averaged 68 acres of cotton, 54 acres of corn, and 41 acres of close-growing crops. Only one planned to continue cotton production, but he intended to do this by assigning his allotment to his most efficient producers. Two operated large orchards; they intended not only to set out additional acreages but eventually to convert their residual or less desirable land to production of feed and roughages for beef cattle. The other two also retained their allotted acreages in cotton but were in process of converting their farms to the raising of beef cattle.

Reliance on Owned and Rented Land

Twenty of the 26 farmers who farmed on a small scale in 1955 owned all the land they used for crops and pasture (appendix table 29). Four rented entire farms. The other two owned most of the cropland and all of the land pastured, but rented small fields for crops from nearby owners.

Only 7 of the 23 farmers who operated on a medium scale owned all of the land in crops or pasture. Six rented entire farms. Ten rented additional fields for crops, but only one rented more than a few acres.

Two of the five farmers who operated on a large scale owned all of the land used for crop or pasture purposes. The third rented only a small acreage of additional land for crops, but the other two rented a comparatively large acreage.

Farming and Other Interests

Eighteen of the 26 operators who farmed on a small scale in 1955 were engaged solely in farming; they were unable to farm more land because of age, poor health, or lack of family and other help. The other eight worked full time off their farms, and such farming as was carried on was done in their spare time, with the aid of members of their families or by renting out part of the crop fields to neighboring farmers.

Only 1 of the 23 operators who farmed on a medium scale had curtailed operations as a result of age and lack of help, and only 5 farmed on a part-time basis. Twelve farmed about the maximum acreage they could operate with the help and equipment available. The other five were equipped to expand operations but were unable to buy more land advantageously prior to 1955.

One of the large-scale farms was operated by a manager. Two of the operators were engaged mainly in farming, and the other two combined farming with the operation of other businesses.

Effect of Adopting Recommended Rotations

The adoption of rotations for conserving soils and moisture on all open land rented and owned by the 54 operators in 1955 would have necessitated a curtailment of the acreage planted to cotton and corn by all three groups of operators (table 12). The reduction would have ranged from an average of 2 acres per farm on the small-scale units to 26 acres on those including 150 acres or more of cropland and pasture.

Table 12. - Acreage per farm used for farming and adapted to farming, by size of farm, survey areas, Southern Piedmont, 1955 1/

Item	Acreage used	Acreage adapted	
		Existing 2/	Potential 3/
	Acres	Acres	Acres
Small farms:			
Row crops	15	13	16
Other crops and pasture	9	22	30
Total	24	35	46
Medium farms:			
Row crops	39	32	37
Other crops and pasture	25	52	64
Total	64	84	101
Large farms:			
Row crops	122	96	111
Other crops and pasture	72	183	266
Total	194	279	377

1/ For definitions, see table 11, p. 28.

2/ Open land in 1955 that could have been utilized if recommended rotations had been adopted.

3/ Includes land that could be added by clearing, developing, and establishing recommended rotations on all woodland adapted to farming.

The additions brought about through clearing, developing, and establishing rotations on all woodland adapted to farming would accommodate the need as of 1955 for land for intertilled crops of the operators who farmed on a small scale, and for most of the requirements at that time of those who farmed on medium and large scales. Conversely, the operators who farmed on a small scale would have limited opportunities for enlarging and diversifying their farming systems.

Those who farmed on a medium scale could not only maintain most of their acreages of row crops as of 1955; they could enlarge their cropland and pasture base to approximately 100 acres. Those who farmed on a large scale could retain more than 100 acres in cotton or corn. At the same time, they could more than triple their acreages of other crops and pasture.

YIELDS AND CARRYING CAPACITIES

Despite the record or near-record cotton crop of 1955 and the equally high yields of 1958, average cotton yields in the Piedmont area of South Carolina and Georgia in the 1954-58 period were only about 25 percent greater than in the 5-year period beginning with the 1939 season (table 13 and fig. 6). Compared with cotton, increases in the yields of corn and other major crops in the Piedmont and other sections of South Carolina and Georgia were greater.

Including the poor crop in 1954, average corn yields per acre were nearly double those in the 1939-43 period. Those of winter wheat were approximately two-thirds greater. Winter oats averaged more than two-fifths greater, and the expansion in yields of hay was equally impressive. Specific data are not available, but the improvements in carrying capacities of pastures probably were at least equivalent to the increases in yields of hay.

Table 13. - Average yields of cotton and other major crops, South Carolina and Georgia, 5-year periods, 1939-58

Period	Cotton lint 1/	Corn	Wheat	Oats	Hay
	Pounds	Bushels	Bushels	Bushels	Ton
1939-43	270	12	12	21	0.6
1944-48	290	15	14	26	.6
1949-53	250	18	16	28	.8
1954-58	340	23	20	30	.9

1/ Piedmont area only.

Favorable cotton yields in the early forties resulted chiefly from (1) concentration in preceding years of much of the cotton crop on the more productive land, (2) increased fertilization, (3) introduction of new and higher yielding varieties, and (4) adoption of better practices for controlling weeds, insects, and diseases. Since then, the influence of further curtailments in acreage and improvements in production practices has been only about sufficient to counterbalance the adverse effects of increasing deficiencies in tilth and soil-moisture relationships on the land retained in cotton.

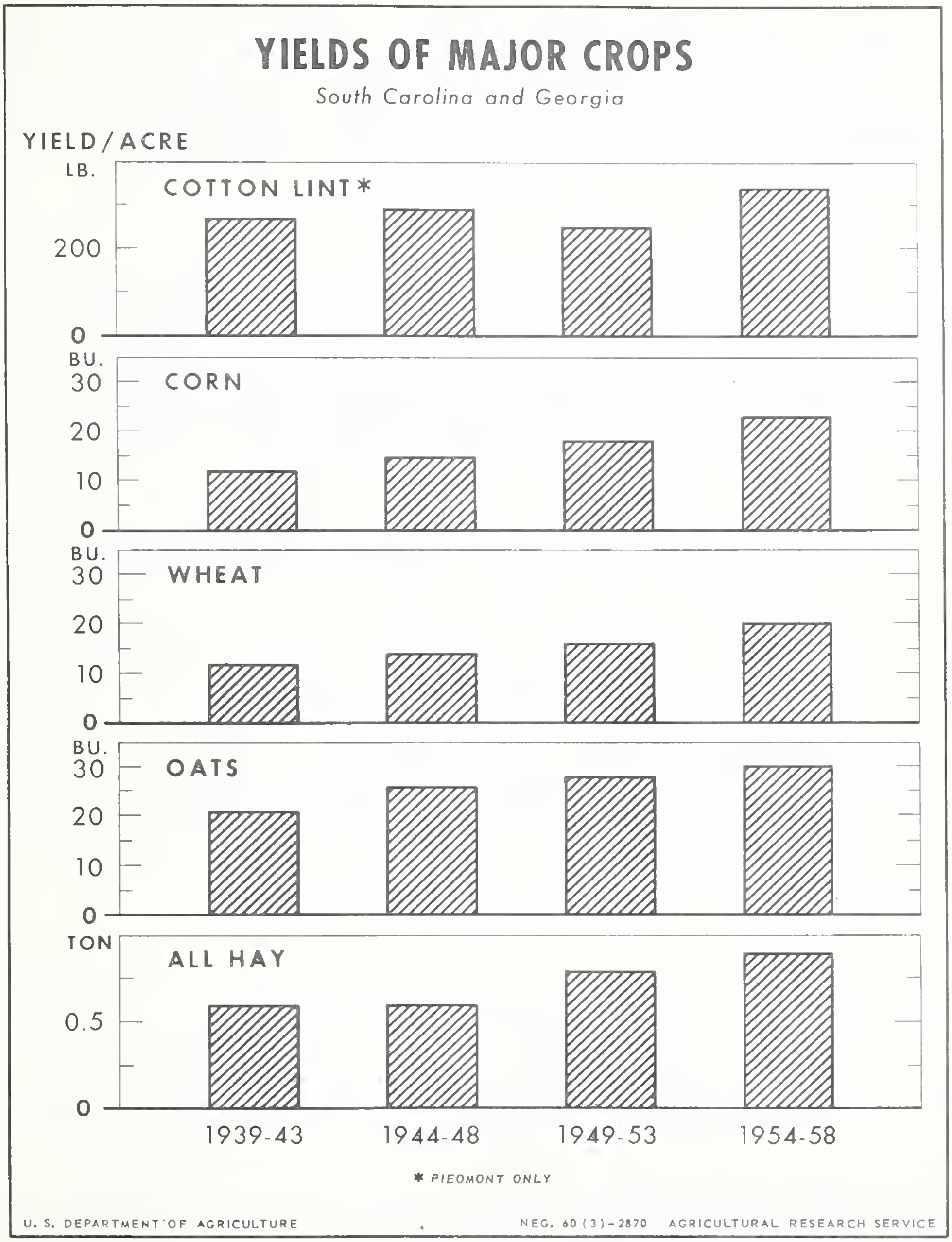


Figure 6. - Since about 1940, increases in average yields per acre have been greater for corn and other major crops than for cotton.

The increases in the yields of crops other than cotton in recent years were associated only partly with the shift of a fairly large percentage of the cotton acreage to corn and other crops, beginning with the 1954 season. Hence, to a substantial degree, recent improvements in yields reflect the benefits that have accumulated from past diversification of operations and modernization of production practices by an increasing number of farmers in the survey and other areas.

More fertilizer was applied and fields were limed as various legumes were incorporated in hay and pasture mixtures. New and higher yielding varieties or hybrids were developed and introduced. Greater attention was given to eradication of weeds and control of insects and diseases. The addition of new equipment for harvesting, curing, and storing grain and hay helped to reduce losses in the field and from deterioration after harvest.

Much land was transferred to other crops or converted to improved pastures. Soil and moisture losses were reduced, and part of the damage sustained under protracted use for cotton and corn was repaired. Also, when practices for controlling runoff, supplying adequate plant nutrients, and returning plant residues to the land were applied, production of corn proved to be less exhaustive than was true of either cotton or corn under the old methods.

Suitable sites for construction of additional farm ponds and small reservoirs are available on most farms. With the added local storage thus provided, facilities could be extended to nearby fields to irrigate not only orchards and commercial truck crops but crops like corn, hay or forage, and pastures. Combined with further changes in management practices, the resulting increases in output would reduce the need for land to produce the same or greater quantities of feed and roughages. In some instances, the expanded production would enable individual farmers to diversify operations without enlarging their holdings.

Cotton

Cotton yields per acre in the Piedmont area of the two States exceeded 400 pounds of lint per acre in 1955 and 1958, but were about average in 1954, 1956, and 1957 (appendix table 30). The weather was unusually favorable in most localities in 1955 and 1958, and cotton was not as adversely affected in the other 3 years as in such seasons as those of 1941, 1949, and 1950.

The cotton crop, as observed in the survey and other Piedmont areas in 1955, 1957, and 1958, was usually fertilized heavily, kept free of weeds, and poisoned frequently to control boll weevils and other pests. Unlike the operators in the survey areas who elected to plant all or part of their allotments, many farmers elsewhere had less choice in the selection of land for cotton.

Thus, the relatively unsatisfactory overall response to acreage reductions and treatments applied are associated closely with the effect of more or less continuous planting of the same land to cotton, or to corn for subsistence purposes.

Corn

Like cotton, unusually favorable weather in the survey and other areas contributed to record or near-record yields of corn in 1955. Yields of both crops were reduced about equally by the weather in 1956 and 1957. Because much of the crop was in the critical tasseling and silking stage, corn was more severely affected than cotton by the period of deficient rainfall and high temperatures in the early summer of 1954.

Particularly in Walton and adjoining counties, corn yields in 1958 exceeded the 30-bushel per acre estimate for the two States as a whole. The use for corn of much of the land usually reserved for cotton was more of a factor than in the preceding years, but at least part of the increase resulted from additional changes in production practices since 1955. Many operators expanded their rates of fertilization in the intervening years. Compared with about half the corn acreage in 1955, possibly less than a fourth was planted to open-pollinated varieties in 1958. By eliminating cotton, farmers were not only in position to plant earlier, but they had more time in which to cultivate their corn.

Winter Grains

The yields per acre of wheat and other winter grains were reduced in the survey and other Piedmont areas in recent years. Too little moisture at planting time, especially in the fall of 1954, insufficient moisture for full maturity in the springs of 1954 and 1957, the unusually late freeze in the spring of 1955, and wet weather at harvesttime in 1956 and 1958 accounted for the reduction.

Had it not been for adverse weather, average yields, and particularly those for winter wheat, would have been substantially greater in the 5-year period. Much of the acreage planted to wheat was shifted from cotton and corn by 1953 or earlier, and additional fields were shifted in 1954 and subsequent years. The new varieties adopted by many Piedmont farmers were not only higher yielding but were less susceptible to rust, other diseases, and lodging than the older varieties. With the increasing stress on production of wheat for feed, either for farm consumption or for sale, has come greater emphasis on more adequate applications of fertilizer and improvements in planting, harvesting, and other practices.

Adverse weather in 1954-58 affected winter oats as much as or more than wheat. In addition, preferences for wheat and to some extent for barley as a source of feed has continued to restrict the acreage planted to oats for use as a winter cover crop, for late fall, winter, and spring pasture, or to be cut for hay on a relatively large number of farms. As a result, less attention has been given to selection of oat varieties that are sufficiently cold resistant or immune to disease and lodging, and to application of plant nutrients, than has been true of other winter grains.

Hay and Forage Crops

Yields of hay and forage, especially following the harvest of a crop of winter grains, were curtailed by the drought of 1954 and by periods of deficient summer rainfall in other seasons. Despite these and other adversities, the trend in recent years has been toward both increased yields per acre and improved quality of the hay and forage harvested in the survey and other Piedmont areas.

As with other crops, part of the gain in yields per acre resulted from the restoration of productivity and improvements in moisture utilization on fields shifted from intensive cultivation before as well as after the reapplication of controls to cotton, beginning with the 1954 season. Much of the rest of the increase stemmed from replacement of lower yielding with higher yielding hay and forage crops. Quality as well as yields have benefited, moreover, because of the addition by many farmers of new equipment and facilities for harvesting, curing, and storage.

Improved Pastures

When a fairly early shift was made from cotton and subsistence crops, pastures supported a relatively large number of dairy or beef cattle. The carrying capacities of the rest of the pastures observed in the survey and other Piedmont areas were not as high, but most pastures responded rapidly to the reterracing and other measures and practices applied by the operators.

Particularly when converted to pasture since 1953, individual fields not only were reterraced, but brush and other undesirable growth was removed from the old terraces and the local drainageways. In addition to better pasture mixtures, ample fertilization and liming when necessary, and regulation of grazing, plant nutrients were added periodically and thin spots were reseeded. Similarly, an increasing number of pasture fields were clipped and in some instances sprayed to control excess growth and prevent encroachment of weeds and brush.

Much additional land can be developed to supply equally good pasture. (Soil Conservation Service SC-D28-2)

Some farmers topseeded pastures to crimson clover and added nitrogen in the fall to augment supplies in the late winter and spring. Others increased their pasture supplies by rotating part of their fields in temporary winter and summer pastures. A few planted sericea or kudzu in order to restore productivity and improve tilth on fields under protracted cultivation in the past and, at the same time, to provide supplemental summer grazing for their livestock.

CONSERVATION PRACTICES

Progress in establishing a more conservational use of the land resources of the survey and adjacent areas was greater when cotton was reduced to a minor role or eliminated entirely from the cropping system than when it was maintained as the chief or an important source of income. Much of the land utilized at one time for corn as well as cotton was shifted to close-growing crops, orchards, commercial truck crops, improved pastures, or protective crops. When a small acreage was retained, the row crops were rotated with close-growing crops or pasture, adequate terraces were constructed, waterways were protected, and fields were often laid out in alternate strips.

In contrast, when a large percentage of the cropland remained in intertilled crops, the scarcity of land, particularly that well adapted to cotton, has required more or less continuous use of the same fields for cotton or in an almost exclusive rotation with corn. Only part of the fields in row crops were planted to a winter cover crop after the cotton or corn was harvested. Terraces were reconstructed chiefly on fields used for cotton, and many outlets for the disposal of runoff were protected only to the extent that the larger watercourses were permitted to grow up in brush.

Especially when the individual ownership units were small, the intervention of property boundaries further complicated the problem of redesigning fields for the more efficient use of modern machinery as well as to conserve soils and moisture. When, in addition, the owners were unable to farm actively because of age, poor health, lack of time, help, or equipment, or were forced to rent all or parts of their holdings, the fields withdrawn from farming were seldom planted to protective crops and few if any were planted to trees.

The adoption of various conservation practices was affected only indirectly if at all by experiences with past and current control programs. Although some farmers were reluctant to split up fields for which established acreages were recorded, others laid out their fields in alternate strips, both before and after controls were reapplied to cotton in 1954. The tendency was to set aside entire fields in meeting commitments to the Acreage Reserve Program in 1958, but a fairly large number of farmers separated out the less desirable parts of their former crop fields.

Transferring Land From Row Crops

The acreage of cotton and corn in the survey areas was reduced from 2,367 acres in 1953 to 908 acres in 1958, or by approximately three-fifths (table 14). Part of the decline in the acreage of row crops was temporary, but a fairly large share of the reduction represented a transfer of additional land from cotton and corn to other crops or pasture.

In 1958, about a fifth of the cropland was in orchards and truck crops. Much of the acreage of close-growing crops was on units on which little if any cotton was grown in 1953, or on those whose owners had eliminated or were in process of eliminating cotton and in some instances corn.

Few pastures were reconverted to cotton or other crops in the 5-year period. Some of the land set aside temporarily in the Acreage Reserve was poorly adapted to row crops, and part of the rest would require reterracing and other treatments before satisfactory yields of either cotton or corn could be anticipated. If restored to farming, both this and the acreage withdrawn from crops or pasture for other reasons are likely to be utilized, as in recent years, mainly for close-growing crops or pasture.

Table 14. - Major uses of open land, survey areas, Southern Piedmont, 1953 and 1958, and changes 1953 to 1958

Land use	1953	1958	Change 1953 to 1958
	Acres	Acres	Acres
Row crops	2,367	908	-1,459
Other crops:			
Orchard and truck	245	504	259
Close-growing	799	1,007	208
Pasture	661	715	54
Other open land:			
Protective crops	179	300	121
Idle land:			
Soil Bank	1/	2/ 703	703
Other idle	492	399	-93
All open land	4,743	4,536	-207

1/ Program not in operation.
2/ Acreage and Conservation Reserve.

Rotating Crops

About four-fifths of the acreage in intertilled crops in 1955 was in cotton or corn in 1953 (table 15). An equally high percentage of the land in row crops in 1958 was in intertilled crops in 1955 and in many instances in 1953. In both 1955 and 1958, only about a tenth was in close-growing crops and even smaller percentages were converted to row crops from fields previously pastured, in protective crops, or idle.

Approximately half the acreage of other crops was in orchards and truck crops or in close-growing crops throughout all or most of the 5-year period. Additions between 1953 and 1958 were accounted for chiefly by the setting out of orchards on former cotton and corn fields, the replacement of corn by winter grains, either as a single crop or followed by a crop of hay or forage, and the restoration of idle fields to close-growing crops.

About 90 percent of the land pastured in 1955 was used for pasture in 1953. A relatively large proportion of the pasture acreage in 1958 had been pastured in both 1953 and 1955. Otherwise, more than a tenth was shifted from crops, and nearly another tenth was converted from fields unused for either crops or pasture since 1955 or earlier.

Table 15.- Use of open land, survey areas, Southern Piedmont, 1955 compared with 1953, and 1958 compared with 1955

Item	Area	Use in 1953			
		Row crops	Other crops	Pasture	Other open land
	Acres	Percent	Percent	Percent	Percent
Land used in 1955 for -					
Row crops	1,907	82	15	1	2
Other crops	1,310	46	52	1/	2
Pasture	692	6	2	92	1/
Other open land	839	21	8	0	71
	Area	Use in 1955			
		Row crops	Other crops	Pasture	Other open land
Land used in 1958 for -					
Row crops	908	80	11	1	8
Other crops	1,511	38	55	1/	7
Pasture	715	5	8	80	7
Other open land	1,402	40	19	8	33

1/ Less than 0.5 percent.

Less than a third of the other open land in 1955 was cropped or pastured in 1953. Because of widespread participation in the Acreage Reserve Program, approximately two-fifths of the acreage lying idle or in protective crops in 1958 was in cotton or corn 3 years before, and nearly a fifth was mainly in close-growing crops. Less than a tenth was added from fields that were pastured at least until 1955.

Reterracing

As in other parts of the Southern Piedmont, most of the land in the survey areas had been terraced at one time or another. With few exceptions, the orchards set out in recent years were planted on terraces, laid out on the contour, and designed not only to conserve soils and moisture but to facilitate the application of water by supplemental irrigation.

Elsewhere, terraces varied greatly, in both design and construction, and in the protection afforded from excessive runoff. The old structures were replaced on much of the land transferred to close-growing crops and improved pasture, as well as on most of the fields retained in cotton or corn on the ridges or interstream divides. Fewer terraces were replaced on the more sloping or eroded land, especially when the fields remained in row crops; were turned out before or during the 5-year period; or were relegated to pasture directly from cotton or corn.

When utilized exclusively for close-growing crops, improved pasture, or row crops planted only in alternate strips, the terraces of newer design and construction were regarded as relatively adequate. When, in contrast, entire fields were planted to cotton or corn, loss of considerable surface material and water occurred during both fairly moderate and heavy rains.

Protracted use for row crops had contributed to the displacement against the old-type terraces of much of the surface and part of the subsoil materials from the bases of the terraces above. When retained in row crops, cotton and corn in the upper rows responded poorly, while much of the growth in the lower rows went into stalks and foliage. Without replacement, the terraces not only took a substantial area; their retention interfered also with the operation of combines and other equipment. When relegated to pasture, the forage-producing area was reduced and erosion of the bases usually continued unchecked.

Redesigning Fields

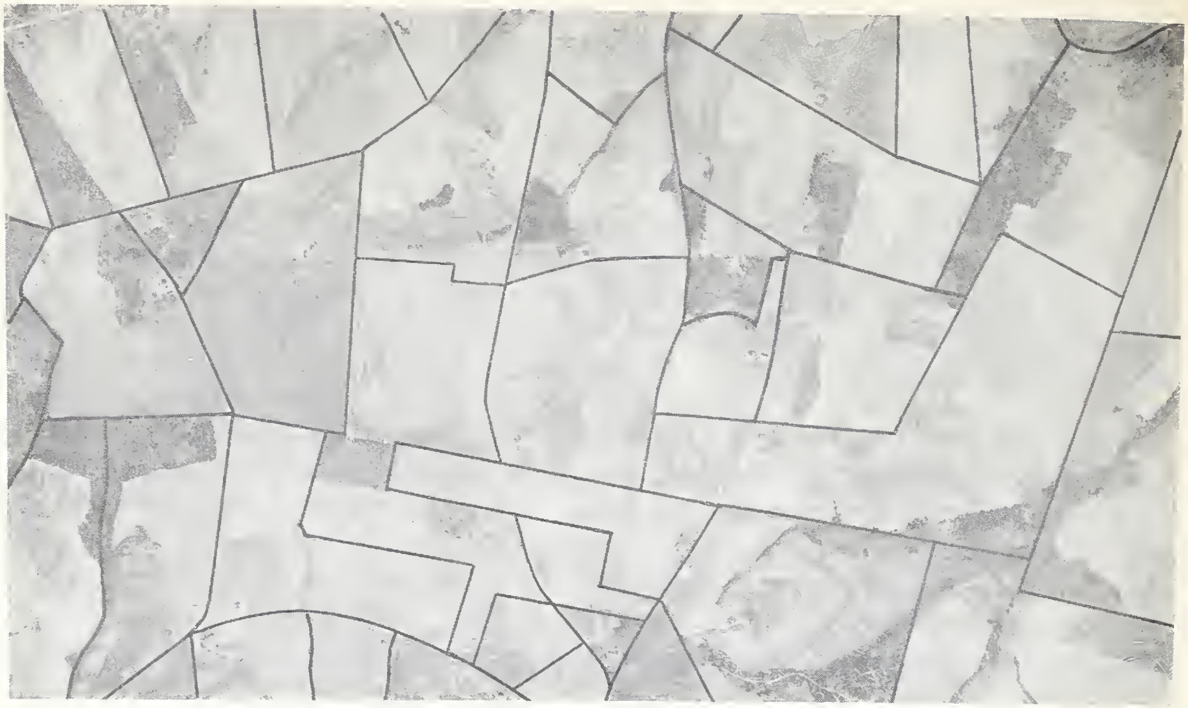
Some farmers in the survey areas had redesigned or were in process of redesigning part of their fields for the planting of alternate strips of row crops. By sodding the waterways and extending the lengths of the strips, they provided for effective disposal of runoff and reduced the costs of operating planters, cultivators, and other tractor-drawn equipment as well.

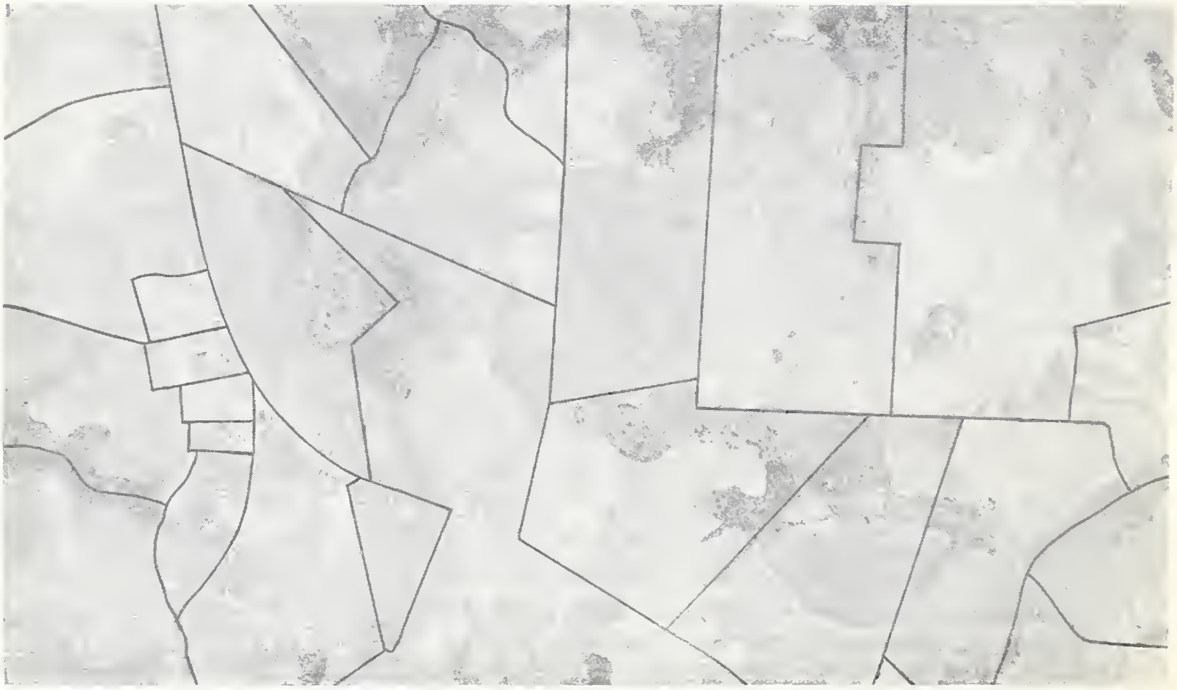
When fields were fairly large or could be consolidated readily, opportunities existed for rearranging fields to better advantage in other parts of the survey areas. Elsewhere, particularly on the smaller ownership tracts, the redesign of fields would be affected not only by variations in the lay of the land but also by the location of roads and the boundaries of properties.

Protecting Waterways

As a rule, the older terraces were extended across the waterways as a means of slowing rates of discharge. In time, most of the larger watercourses were permitted to grow up in brush, and many of the gullies were stabilized by the planting of kudzu.

Frequently, encroachment of brush made it necessary to split up the original fields and, in turn, to reduce the lengths of the individual rows. Hence, at the time that many of the newer terraces were constructed, the waterways were cleared, shaped, and sodded both to accommodate the drainage from the fields and to permit crossing by machinery.





In addition to unfavorable relief, the intervention of property boundaries and roads often limits opportunities for redesigning existing fields. (Commodity Stabilization Service, ATB-4P-76, ATB-4P-32)

Planting Protective Crops

In the survey areas, a relatively large acreage has been planted to sericea or kudzu for protective purposes and as part of a program for restoring former cotton and corn fields to productive use. Much other land could be planted to kudzu, if precautions were taken to prevent its spread to nearby orchards or stands of young pine. These sites include such gullies as have not been stabilized, worn or severely eroded spots in old fields, and other areas on which establishment of grass or tree cover has been difficult. Similarly, additional sericea could be planted on terraces not intended for replacement and on waterways scheduled for removal of brush, smoothing, and sodding. Elsewhere, more kudzu, sericea, or other protective crops could be planted advantageously on fields subjected to protracted cultivation, particularly when, as in the 1953-58 period, the owners had little if any immediate need for the extra land in meeting their requirements for land for crops and pasture purposes.

Planting Winter Cover Crops

Responses to the planting of winter cover crops have been satisfactory on the lighter and sandier soils and wherever farmers have rotated their crops and applied lime before planting vetch and other winter legumes. As a rule, results on the heavier soils have been disappointing, especially when it has been necessary to replant fields to cotton or corn the following season. The turning under of cover crops added little in the way of organic matter and plant nutrients. If breaking of ground is delayed to take advantage of greater growth in the late winter and spring, rains are likely to interfere with the timely preparation of fields for planting.

Planting Trees

In some localities, the presence of seed pines in nearby timber or cutover tracts contributes to fairly rapid reforestation once farming is suspended. In others, inadequate natural restocking necessitates planting seedlings of potential commercial value.

A few tree plantations were set out in recent years in the survey and adjacent areas, but there are many other appropriate sites for additional plantings. These sites include not only the fields or parts of fields withdrawn from farming because of adverse slope or other characteristics, but those on units whose owners are unable to farm or to rent out all their land to farmers in the vicinity. In addition, the elimination of culls and other low-value growth from many of the cutover tracts would enable the owners to replant to more desirable species.

Sericea and kudzu supply seed, hay and pasture, and stabilize and rebuild soils as well. (Soil Conservation Service, SC-D27-18, GA-D2-265)

Much Piedmont land can be reforested only by planting. (Soil Conservation Service NC-D7-208)

Thinning for pulpwood 14 years after planting. (Soil Conservation Service GA-D7-74

Constructing Farm Ponds

Part of the farm ponds added in the survey areas in recent years were constructed to furnish water for irrigating other crops or improved pastures, for livestock or household use, or solely for conservational and recreational purposes.

Construction of farm ponds and small reservoirs on the additional sites available would supply farmers in the survey and adjacent areas with a convenient and relatively low-cost source of water for these and other purposes. If installed in sufficient numbers, they would help to reduce the overflow problem on the low-lying areas below the sites.

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Table 16. - Acreage and percentage of land in various soil-management groups and subgroups, survey areas, Southern Piedmont 1/

Groups and subgroups	Acreage	Percentage of total	Description		
			Land capability class and subclass	Slopes 2/	Erosion
	Acres	Percent		Percent	Degree
Uplands and terraces:					
1	2,131	27	IIe	2- 6	Slight to moderate.
2	1,577	20	IIIe	2- 6	Severe.
3	665	9	IIIe	6-10	Moderate.
4a	336	4	IVe	6-10	Severe.
b	497	6	IVe	10-15	Moderate.
5a	80	1	VIe	6-10	Very severe.
b	371	5	VIe	10-15	Severe.
c	476	6	VIe	15-25	Moderate.
6a	85	1	VIIe	10-15	Very severe.
b	721	9	VIIe	15-25	Very severe.
c	298	4	VIIe	3/	Variable.
7	4	4/	VIIIe	5/	5/
Total	7,241	92	---	---	---
Lowlands:					
8a	23	4/	I	0- 2	6/
b	108	1	IIw	2- 6	6/
9a	334	4	IIIw	0- 2	6/
b	145	2	Vw	0- 2	6/
c	40	1	IIIw	2- 6	6/
Total	650	8	---	---	---
Grand total	7,891	100	---	---	---

1/ Excludes acreage occupied by farmsteads and similar uses.
2/ Certain catagories contain minor acreages in other classes.
3/ Shallow, rocky, or stony lands of Louisburg series.
4/ Less than 0. 5 percent.
5/ Rough, gullied lands.
6/ Subject variously to accumulations of additional materials.

Table 17.- Potential use of land with maximum development, by soil-management groups, survey areas, Southern Piedmont, 1955

Soil-management group	Survey acreage	Potential use: Row crops	Potential use: Other crops and pasture	Potential use: Timber production 1/
	Acres	Acres	Acres	Acres
1 2/	2,262	1,126	1,125	11
2 and 3	2,242	747	1,495	0
4	833	208	625	0
5, 6, and 9	2,550	0	1,373	1,177
Total 3/	7,887	2,081	4,618	1,188

1/ Woodland on group 6 and interspersed areas of groups 8 and 9 soils.

2/ Includes minor acreages of group 8 soils.

3/ Excludes 4 acres of wasteland on group 7 soils, and 262 acres in farmsteads and other miscellaneous uses.

Table 18. - Percentage of survey acreage in cropland and other major uses, survey areas, Southern Piedmont, 1953, 1955, and 1958

Land use	1953	1955	1958
	Percent	Percent	Percent
Cropland	42	40	30
Pasture	8	8	9
Other open land	8	10	17
Woodland	39	39	40
Miscellaneous 1/	3	3	4
Total	100	100	100

1/ Farmsteads and similar uses.

Table 19.-Uses of open land and woodland, by soil-management groups, survey areas, Southern Piedmont, 1953 and 1958, and changes 1953 to 1958

Land use and soil-management group	Area		Changes 1953 to 1958	
	1953	1958	Area	Percentage
	Acres	Acres	Acres	Percent
Cropland:				
1 1/	1,644	1,454	-190	-12
2	1,037	666	-371	-36
3	308	127	-181	-59
4	271	134	-137	-50
5, 6, 9	151	38	-113	-75
Total or average	3,411	2,419	-992	-29
Pasture:				
1 1/	153	166	13	8
2	161	184	23	14
3	117	136	19	16
4	38	67	29	76
5, 6, 9	192	162	-30	-16
Total or average	661	715	54	8
Other open land:				
1 1/	246	368	122	50
2	157	437	280	178
3	51	207	156	306
4	103	186	83	80
5, 6, 9	114	204	90	79
Total or average	671	1,402	731	109
Woodland:				
1 1/	219	241	22	10
2	222	244	22	10
3	189	195	6	3
4	421	423	2	2/
5, 6, 9	2,093	2,144	51	2
Total or average	3,144	3,247	103	3

1/ Includes minor acreages of group 8 soils.
2/ Less than 0.5 percent.

Table 20.- Percentage distribution of open land and woodland, by soil-management groups, survey areas, Southern Piedmont, 1953, 1955, and 1958

Year and soil-management group	Survey areas 1/	Open land			Woodland
		Cropland	Pasture	Other	
	Percent	Percent	Percent	Percent	Percent
1953:					
1 2/	29	48	23	37	7
2	20	31	24	23	7
3	8	9	18	8	6
4	11	8	6	15	13
5, 6, and 9	32	4	29	17	67
Total	100	100	100	100	100
1955:					
1 2/	29	50	24	31	7
2	20	29	25	29	7
3	8	9	18	10	6
4	11	8	6	14	13
5, 6, and 9	32	4	27	16	67
Total	100	100	100	100	100
1958:					
1 2/	29	60	23	27	7
2	20	27	26	31	8
3	8	5	19	15	6
4	10	6	9	13	13
5, 6, and 9	33	2	23	14	66
Total	100	100	100	100	100

1/ Excludes acreages in miscellaneous uses. 2/ Includes minor acreages of group 8 soils.

Table 21. - Acreages in major crops in 1955 and 1958 as percentages of acreages in 1953, survey areas, Southern Piedmont

Crop	1953 acreage	Percentage of 1953	
		1955	1958
	Acres	Percent	Percent
Row crops:			
Cotton	1,553	67	11
Corn	814	106	90
Total or average	2,367	81	38
Close-growing crops	799	123	126
Orchards	185	136	235
Truck crops	60	123	115
Total or average	3,411	94	71

Table 22. - Percentage distribution of acreage planted to specified crops, by soil-management groups, survey areas, Southern Piedmont, 1953, 1955, and 1958

Year and crop	All	Percentage in soil-management group -				
		1 1/	2	3	4	5, 6, 9
	Acres	Percent	Percent	Percent	Percent	Percent
1953:						
Cotton	1,553	49	34	10	3	4
Corn	814	44	27	14	10	5
Close-growing crops	799	48	29	4	13	6
Orchards	185	58	23	0	17	2
Truck crops	60	52	31	7	3	7
Total or average	3,411	48	31	9	8	4
1955:						
Cotton	1,043	54	32	7	4	3
Corn	864	42	24	18	10	6
Close-growing crops	984	50	32	5	9	4
Orchards	252	64	20	0	14	2
Truck crops	74	52	29	5	7	7
Total or average	3,217	50	29	9	8	4
1958:						
Cotton	177	64	18	18	0	0
Corn	731	69	20	6	4	1
Close-growing crops	1,007	50	36	7	5	2
Orchards	435	68	20	0	11	1
Truck crops	69	60	30	3	2/	7
Total or average	2,419	60	27	6	5	2

1/ Includes minor acreages of group 8 soils.

2/ Less than 0.5 percent.

Table 23.- Uses in 1955 of cotton acreage harvested in 1953, survey areas, Southern Piedmont

Land use in 1955	Cotton acreage, 1953	
	Area	Percentage of total
	Acres	Percent
Cotton	736	47
Corn	268	17
Close-growing crops	341	22
Orchards	71	5
Truck crops	19	1
Pasture	23	2
Protective crops	27	2
Idle land	68	4
Total	1,553	100

Table 24. - Uses in 1958 of cotton acreage harvested in 1955, survey areas, Southern Piedmont

Land use in 1958	Cotton acreage, 1955	
	Area	Percentage of total
	Acres	Percent
Cotton	96	9
Corn	290	28
Close-growing crops	252	24
Orchards	112	11
Truck crops	4	1/
Pasture	9	1
Protective crops	12	1
Acreage Reserve	235	23
Other idle	20	2
Miscellaneous	13	1
Total	1,043	100

1/ Less than 0.5 percent.

Table 25. - Uses in 1955 of land in Soil Bank in 1958, by soil-management groups, survey areas, Southern Piedmont

Land use in 1955 1/	Soil Bank acreage, 1958					
	Area	Percentage in soil-management group -				
		1 2/	2	3	4	5, 6, 9
	Acres	Percent	Percent	Percent	Percent	Percent
Acreage Reserve:						
Cotton	235	28	47	8	9	8
Corn	202	17	32	22	10	19
Close-growing crops	204	23	48	5	10	14
Other crops 3/	12	---	---	---	---	---
Total or average	653	23	43	11	10	13
Conservation Reserve:						
Corn	21	39	4	0	57	4/
Close-growing crops	29	15	6	0	63	16
Total or average	50	25	5	0	60	10

1/ Excludes the acreages set aside from interplanting areas in orchards or from land in protective crops.

2/ Includes minor acreages of group 8 soils.

3/ Orchards and truck crops. Percentage distribution not significant.

4/ Less than 0.5 percent.

Table 26. - Average acreages per property currently and potentially adaptable to row and other crops and pasture, by size of property, survey areas, Southern Piedmont, 1955

Size of property	Total	Row crops	Other crops and pasture
	Acres	Acres	Acres
Currently adaptable: 1/			
Under 25 acres	11	4	7
25 to 49 acres	25	9	16
50 to 99 acres	47	18	29
100 to 199 acres	62	22	40
200 acres or more	177	63	114
Average	42	15	27
Potentially adaptable: 2/			
Under 25 acres	12	5	7
25 to 49 acres	33	11	22
50 to 99 acres	62	21	41
100 to 199 acres	97	29	68
200 acres or more	256	72	184
Average	59	18	41

1/ Includes all open land in 1955.

2/ All open land in 1955 plus all woodland except that on group 6 and interspersed areas of groups 8 and 9 soils.

Table 27.- Number and size of ownership units, by occupation of owners, survey areas, Southern Piedmont, 1955

Occupation	Units	Acreage	
		Total	Average per unit
	Number	Acres	Acres
Farming	28	2,413	86
Farming and other	17	2,844	167
Other	36	2,896	80
Total or average	81	8,153	101

Table 28. - Average acreages of major crops, by size of farm, survey areas, Southern Piedmont, 1955

Crop	Size of farm 1/		
	Small	Medium	Large
	Acres	Acres	Acres
Row crops:			
Cotton	7	22	68
Corn	8	17	54
Total	15	39	122
Close-growing crops	8	21	41
Orchards	2/	3	26
Truck crops	1	1	5
Total	24	64	194

1/ See table 11, p. 28 for definitions.
2/ Less than 0.5 percent.

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Table 29. - Number of farmers owning or renting all land farmed or owning part and renting additional fields, by size of farm, survey areas, Southern Piedmont, 1955

Size of farm 1/	All farmers	Status		
		All owned	All rented 2/	Owned and rented
	Number	Number	Number	Number
Small	26	20	4	2
Medium	23	7	6	10
Large	5	2	0	3
Total	54	29	10	15

1/ See table 11, p. 28 for definitions.
2/ 2 farmers rented additional fields for crops.

Table 30. - Average yields per acre of cotton and other selected crops, South Carolina and Georgia, 1954-58 and averages 1944-53

Year	Crop				
	Cotton lint 1/	Corn	Wheat	Oats	Hay
	Pounds	Bushels	Bushels	Bushels	Ton
1954	260	12	19	30	0.7
1955	440	25	18	26	.9
1956	280	23	22	35	.9
1957	300	26	18	29	1.0
1958	410	30	22	32	1.0
Average:					
1954-58	340	23	20	30	.9
1944-53	270	16	16	27	.7

1/ Piedmont area only.